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Ref: ACP-323780-25
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An Coimisiún Pleanála,
Strategic Infrastructure Development,
64 Marlborough St,
Rotunda,
Dublin 1,
D01 V902.

Re: **ACP-323780-25: Ballinlee Wind Farm**
Subject: **Ballinlee Submissions Response Document**

To whom it concerns,

Please find enclosed a copy of the Ballinlee Submissions Response Document.
This document provides the responses of Ballinlee Green Energy Limited and Malachy Walsh and Partners (MWP) (the design, planning and environmental assessment consultants on this project) to the submissions received on the proposed Ballinlee Wind Farm application (ACP-323780-25).

Yours sincerely,

Aileen O'Connor

Aileen O'Connor
Senior Project Manager
for MWP

ENGINEERING AND ENVIRONMENTAL CONSULTANTS

MWP

RESPONSE TO OBSERVATIONS (ACP-323780-25)

Ballinlee Wind Farm

Ballinlee Green Energy Ltd.

February 2026

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1. Introduction

This document provides the responses of Ballinlee Green Energy Limited and Malachy Walsh and Partners (MWP) (the design, planning and environmental assessment consultants on this project) to the submissions received on the proposed Ballinlee Wind Farm application (**ACP-323780-25**). This document provides a summary of the observations received from Prescribed Bodies and from members of the public (**Section 2**). Thereafter the responses are provided to key issues raised which were deemed to require a response. These have been grouped under responses to issues raised by Prescribed Bodies (**Section 3**), and issues raised by members of the public (**Section 4**). A conclusion is included in **Section 5**.

The responses to the issues raised have been completed by Ballinlee Green Energy Ltd. and MWP, with contributions from Woodrow APEM, Synergy Environmental Limited, Macroworks, Enfonic, Ai Bridges and Laurence Dunne Archaeology.

A number of the queries raised in the submissions have already been addressed in the EIAR, NIS and planning application documentation. Therefore, where possible relevant reference is made to the applicable application documents.

2. Summary of Responses Received

2.1 Observations Received from Prescribed Bodies

Six (6 no.) observations were received from the following authorities: Limerick City & County Council (LCCC), Department of Health, Safety and the Environment (HSE), Development Applications Unit (DAU) (Heritage), Department of Defence (DoD), Transport Infrastructure Ireland (TII) Dept. of Transport and the Irish Aviation Authority (IAA). These are responded to in **Section 3**.

2.2 Submissions from the Public

Three hundred and ten (310 no.) submissions were received from the public. These were almost exclusively from residents. Following a systematic review of these observations it was found that visual impact, noise and vibrations, ecology, shadow flicker, traffic, human health, and water were the main queries raised, alongside queries regarding public consultation/engagement. In order to avoid repetition, **Section 4** groups together similar issues and provides a response on a thematic basis, rather than providing a response to each individual submission.

3. Responses to Issues Raised by Prescribed Bodies

3.1 Conditions required by Prescribed Bodies

Table 3-1 outlines the conditions proposed by the prescribed bodies and responses to these.

Table 3-1: Proposed Planning Conditions for the Ballinlee Wind Farm from Prescribed Bodies

#	Prescribed Body	#	Submission	Proposed Conditions from Prescribed Bodies	Response
1	DAU	1	EIAR relies on desk-based assessment and walkover only, DAU says this does not provide adequate baseline for cultural heritage. High potential for unknown subsurface sites;	The developer shall engage a suitably qualified archaeologist (licensed under the National Monuments Acts) to carry out a pre-development Archaeological Geophysical Survey and a pre-development Archaeological Test Excavation of the development site for all greenfield sections of the development and to submit an archaeological impact assessment report for the written agreement of the planning authority, following consultation with the Department in advance of any site preparation works or groundworks, including site investigation works/topsoil stripping/site clearance and/or construction works.	Licensed geophysical and test excavations were proposed as part of the planning application and these will be undertaken at the appropriate time - see **Chapter 14, Section 14.7** of EIAR. **Figure 14-16** identified the targeted areas to undertake geophysical surveys pre-construction. The developer notes the submission by the DAU and the recommendations therein, which are consistent with the above. On this basis, and subject to securing appropriate licences, the applicant will progress an Archaeological Geophysical Survey for the area around T01 within the barrow cluster and the deposition area. Due to the forested nature of the substation area and the fact that the possible remains of the earthwork, LI039-149 was destroyed when the site was planted with forestry, it is not proposed or feasible to undertake a geophysical survey of this area. The results of the survey will be used to inform the requirement and strategy for further pre-development geophysical surveys as outlined in **Figure 14-16**, preceding Archaeological Test Excavations in consultation with the Department. The results of the geophysical survey for the area around T01 and the deposition area will be available to ACP as Further Information if deemed necessary.

#	Prescribed Body	#	Submission	Proposed Conditions from Prescribed Bodies	Response
		2	PDS near numerous Recorded Monuments and non-statutory SMR sites; previous gas pipeline works uncovered multiple archaeological sites, showing high potential for unknown remains. Risks include turbine T01 near barrow cluster, deposition area overlapping ring-barrow, and substation near earthwork.	No relevant proposed conditions.	Noted and agreed. The potential of impacting subsurface archaeological features is mitigated by proposed geophysical survey and follow-on licensed test excavations (see Mitigation **Section 14.7**). **Section 14.3.1.3.1** discusses the cluster of four prehistoric barrows in the vicinity of T1. Field inspection revealed the possible remains of the ditch barrow LI031-151002 (**Plate 14-1**). No visible above ground remains of the three other recorded barrows were noted during the site inspection. It is proposed that this area will be subject to geophysical survey, as per **Figure 14-16**. The deposition area does not directly overlap Ring-barrow LI031-127 (**Figure 14-4** & **Plate 14.4**). However, the proposed deposition area partially extends into or clips the western limits of its zone of notification (ZON). The possible remains of the earthwork, LI039-149 was destroyed when the site was planted with forestry (now mature). In that context, a number of issues present themselves here viz: -(1) the Earthwork was identified in the Bruff Aerial Survey in 1986 (AP5/2063). The veracity of its acceptance as a monument appears to have been excluded during a previous archaeological field survey undertaken in advance of the forestry planting at the time. This is de facto confirmed as a Barrow (LI039-133) situated in the same forestry 200m to the east and was assigned a planting buffer zone by the field archaeologist (**Plate 14-7**). If the Earthwork

#	Prescribed Body	#	Submission	Proposed Conditions from Prescribed Bodies	Response
					was present, a planting buffer zone would have been put in place, (2) the forestry planting and subsequent growth would have substantially destroyed any remains of this site, (3) it is not possible to undertake meaningful geophysics here, (4) a targeted field inspection undertaken with regard to this study found no evidence, residual or otherwise of the Earthwork (**Section 14.3.1.3.8** & **Plate 14-6**).
		3	EIAR suggests design avoids direct impacts and preserves sites in situ, but many sites lack surface expression and extents are uncertain. Without geophysics and test excavation, preservation cannot be confirmed; separation distances must be based on true extents.	Mandate targeted geophysics and test trenches, update design to ensure genuine preservation, include constraints and mitigation in CEMP; maintain archaeological oversight throughout.	Noted and agreed. See Mitigation **Section 14.7**.
		4	DAU states deferring geophysical survey and test excavation to post-consent is not appropriate and does not support informed planning, fuller understanding may require redesign or omission of elements. Commission may need Further Information.	If permitting, require pre-consent investigations and written approval to proceed after report review; or request Further Information now to address gaps.	Noted. A geophysical survey will be progressed at the identified areas in Response 1. Further geophysical survey and follow-on licensed testing will be undertaken pre-construction (see Mitigation **Section 14.7**).
		5	DAU advises exclusion zones around vulnerable heritage assets during construction and decommissioning; CEMP must include all archaeological constraints and mitigation; decommissioning plan should include archaeological oversight; final report and post-excavation analysis required; all costs borne by developer.	Retain project archaeologist; define and implement exclusion zones; include constraints in CEMP; prepare archaeological mitigation plan for decommissioning, submit final reporting; comply with further requirements after consultation.	Noted and agreed. Determinations with regard to potential exclusion zones and decommissioning mitigation strategies will be formulated following the results of licensed test excavations and geophysical survey and liaison with NMS / LCCC. In that context see Mitigation **Section 14.7**.

#	Prescribed Body	#	Submission	Proposed Conditions from Prescribed Bodies	Response
		6	EIAR treats sites as isolated, fails to consider clusters and ritual landscape context; potential for extensive burial/ritual features beyond known sites.	Require landscape-level assessment, integrate findings into design and mitigation strategy, consider redesign or omission of elements if impacts confirmed.	Noted. A geophysical survey will be progressed at the identified areas in Response 1. Further geophysical surveys and follow-on licensed testing will be undertaken pre-construction. Any proposed preservation in situ by design or minor redesign/alterations to project elements will be submitted to the planning authority/DAU.
		7	T01 within barrow cluster; deposition area overlaps ring-barrows; substation may incorporate Earthwork LI039-149, EIAR assumes non-extant without verification.	Conduct site-specific geophysical survey and test excavation; confirm extents, redesign or relocate infrastructure to avoid impacts	Noted and agreed. Mitigation is based on evaluation of available information (see Response 2 above). There is a very low potential to confirm/verify that any remains of Earthwork LI039-149 (if it ever existed) survive given the planting process and root development of the forestry. This low potential is mitigated by proposed licensed testing targeted on constrained areas within the ZON of the monument.
2	Department of Defence	1	All turbines should be illuminated by Type C, Medium intensity, Fixed Red obstacle lighting with a minimum output of 2,000 candela to be visible in all directions of azimuth and to be operational H24/7 days a week.	Install Type C, Medium intensity, Fixed Red obstacle lighting operational 24/7.	Noted and agreed. An aeronautical obstacle warning light scheme will be agreed with the IAA.
		2	Obstacle lighting may be incandescent. If LED or other lighting types are used, should be a type visible to Night Vision equipment.	Ensure LED or other lighting types are visible to Night Vision equipment.	Noted and agreed. An aeronautical obstacle warning light scheme will be agreed with the IAA.
		3	Obstacle lighting must emit light at the near Infra-Red (IR) range of the electromagnetic spectrum, specifically at or near 850 nanometres (nm) of wavelength. Light	Provide IR lighting at or near 850 nm wavelength with similar intensity to visible spectrum.	Noted and agreed. An aeronautical obstacle warning light scheme will be agreed with the IAA.

#	Prescribed Body	#	Submission	Proposed Conditions from Prescribed Bodies	Response
			intensity to be of similar value to that emitted in the visible spectrum of light		
		4	In the event of negative impacts on future military radar systems, the owner will engage with the Department of Defence and will provide suitable mitigations as soon as practical.	Engage with Department of Defence and provide suitable mitigations if radar impacts occur.	In the event of negative impacts on future military radar systems, the applicant confirms that consultation will be undertaken with the relevant aviation stakeholders.
3	HSE	1	HSE notes that predicted noise levels from turbines and associated infrastructure may affect residential properties and sensitive receptors. The NEHS is of the opinion that if the mitigation measures are implemented in full there is adequate protection of Public and Environmental Health during the proposed construction phase	No relevant proposed conditions.	Noted and agreed.
		2	The EIAR clearly states the technology exists to reduce or eliminate shadow flicker where required. The NEHS notes commitment to comply with 2006 WEDGs and draft 2019 Guidelines if adopted	In the interest of the protection of public Health the proposed condition in the 2019 Draft Guidance should be implemented if consent is given for the development. The technology has advanced since the publication of the 2006 Guidance and it is a reasonable health protection measure to be included in any conditioning of a wind farm development. The mitigation measures that will eliminate exposure to shadow flicker are identified in the EIAR. This mitigation should be implemented irrespective of whether the current guidance is updated.	Noted and agreed.
		3	The dust monitoring is a monthly average standard Compliance with standard can incorporate short periods of very high levels of dust deposition followed by low levels and still be compliant. It is therefore important that dust minimisation is continually implemented, and any complaints are investigated and responded to.	Condition dust suppression measures; require complaint investigation and response; maintain monitoring throughout construction	Noted and agreed

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		4	HSE notes risk of contamination to private wells and water sources during construction and operation. All drinking water and water used for the preparation of food in the temporary construction compounds should meet the requirements of S.I. No. 122/2014 - European Union (Drinking Water) Regulations 2014. There should be no direct emission to ground or surface water of any foul wastewater. All wastewater should be contained and taken off site to a licensed treatment facility.	Condition compliance with S.I. No. 122/2014, require wastewater containment and off-site disposal, enforce site drainage and pollution prevention measures.	Noted and agreed. Refer to **Section 4.2.4** of the Construction Environmental Management Plan (CEMP) provided as **Appendix 2A**.
		5	HSE identifies potential health risks from dust, traffic, and noise during construction. Conditioning hours of construction activity is an important element of the protection of Public Health. Particularly to prevent sleep disturbance. The recommended hours of construction are: Monday to Friday 08.00 to 19.00, Saturday 09.00 to 14.00, No work on Sunday or Bank Holidays; Exceptional work outside these hours at the express permission of the Planning Authority	Condition implementation of a Construction Environmental Management Plan (CEMP) covering dust, noise, and traffic mitigation, working hours; require compliance with health and safety legislation; monitor during construction.	Noted and agreed. A Construction Environmental Management Plan (CEMP) which covers these risks has been provided as **Appendix 2A** of the submission. As stated within the document, the CEMP will be updated as necessary, including to incorporate any conditions attached to a granted planning permission.
4	IAA				Noted and agreed. Should consent be granted, the applicant confirms that consultation will be undertaken with the relevant aviation stakeholders. **Appendix 17A** of the submission confirms that due to the distance of the proposed development from Shannon Airport, there should be no impact to flight procedures. Given the distance of the proposed development from radar installation, a detailed impact assessment on radar surveillance systems is not required.
		1	Applicant should engage with Shannon Airport Authority and AirNav Ireland to confirm proposed wind farm and cranes have no impact on Instrument Flight Procedures, Communications, Navigation and Surveillance equipment or flight safety at Shannon Airport	Engage with Shannon Airport Authority and AirNav Ireland to confirm no impact on flight procedures or CNS equipment.	

#	Prescribed Body	#	Submission	Proposed Conditions from Prescribed Bodies	Response
		2	Applicant should contact Irish Aviation Authority to agree an aeronautical obstacle warning light scheme for the wind farm development	Agree obstacle lighting scheme with Irish Aviation Authority.	Noted and agreed as per **Section 17.4.2.5** of the EIAR **Chapter 17**. Should consent be granted, the applicant confirms that consultation will be undertaken with the relevant aviation stakeholders.
		3	Applicant should provide as-constructed coordinates in WGS-84 format together with ground and tip height elevations at each wind turbine location.	Submit WGS-84 coordinates and ground/tip heights for all turbines to Irish Aviation Authority.	Noted and agreed as per EIAR **Chapter 19** page 52.
		4	Applicant should notify Shannon Airport Authority, AirNav Ireland and Irish Aviation Authority of intention to commence crane operations with at least 30 days prior notification in accordance with S.I. 215 of 2005.	Notify Shannon Airport Authority, AirNav Ireland and Irish Aviation Authority at least 30 days before crane erection.	Noted and agreed as per EIAR **Chapter 19** page 53. Should consent be granted, the applicant confirms that consultation will be undertaken with the relevant aviation stakeholders.
5.	**Limerick City & County Council (LCCC)**	1	While most of the wind farm site lies in 'Preferred Areas', a section of the underground Grid Connection Route (GCR) passes through lands designated 'unsuitable for new wind energy development'. The report treats the GCR as electricity transmission rather than wind infrastructure and notes no visual impact once operational, but Members questioned alignment with the Limerick Development Plan 2022–2028 and the breadth of Map 9.1 'Preferred Areas'. They highlighted outdated national guidance (2006) versus turbine heights of 150–160 m and asked that written text should take precedence where map conflicts arise.	Demonstrate full compliance with Development Plan objectives and provide a policy justification for the GCR section through 'unsuitable' lands; include any necessary clarifications or amendments in planning documentation; address Member concerns on reliance on 2006 guidelines for modern turbine scales.	Relevant policy objectives included in the Limerick Development Plan 2022-2028 support the proposed development including CAFP6 Renewable Energy, CAF 028 Assessment of Renewable Energy Projects, CAF 029 Wind Energy Development and Environmental Considerations and CAF 030 Location of Wind Energy Developments. Objective CAF 029 sets out the objective of the Council to facilitate the development of wind energy in an environmentally sustainable manner, ensuring proposals are consistent with the landscape character objectives of the Plan, the

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					protection of the natural and built environment and the visual and residential amenities of the area. The proposed siting of the GCR underground in the public road ensures that the GCR fully complies with this policy objective. The location of the wind turbines is within a 'Preferred Area', with the majority of the grid connection also within this area. Please see the **Planning Statement** for further policy considerations.
		2	The LVIA recorded substantial–moderate, negative, long-term impacts at VP10 (Dromin Graveyard) and VP11 (Local Road at Dromin North). Members stated visual impact is understated for 150–160 m turbines; they noted only one Lough Gur viewpoint (taken behind a tree) and omission of sacred sites/views at Knock Áine. The Conservation Officer requested broader assessment of ACAs (Bruff, Lough Gur, Kilmallock) and designed landscapes.	Submit additional photomontages and viewpoints (including Lough Gur and Knock Áine) and expand LVIA to cover ACAs and designed landscapes; revise **Chapter 14** to include indirect/visual effects on heritage settings; provide mitigation proposals if significant effects remain.	The LVIA assessment undertaken and associated photomontages contained a comprehensive assessment of the landscape. The approach followed a population-based assessment rather than one that specifically considered the intrinsic ACA merits of the built fabric or archaeological setting. This is an appropriate approach for the LVIA as these setting-based factors are dealt with separately and from an expert perspective as appropriate in the Cultural Heritage assessment (**Chapter 14**).
		3	**Figure 14-5/Table 14-10** omitted numerous Protected Structures within 3 km (e.g., Rathcannon Castle, Maidstown Castle/House, De Valera Cottage, Rockbarton House, Glebe House, Dromin Church, Bulgaden Castle, Bruree Castle, Howardstown Bridge, Athlacca Bridge, Cahir-Guillamore). The site appears partly within a designed landscape (Summer Ville Reg.	Revise EIAR **Chapter 14** to add missing Protected Structures and assess direct/indirect impacts on ACAs and NIAH Garden Survey sites; include mitigation and, where relevant, additional photomontages; agree measures for heritage assets along the GCR/Turbine Delivery Route.	**Table 14-10**, & **Figure 14-5** lists 59 structures within the 3km study zone of which eight are Protected Structures with the main body of sites listed in the NIAH (see **Section 14.3.1.6**). The structures listed as omitted in the submission are outside and beyond the 3km study zone. However, DeValera's Cottage (c.5km to the W) was

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			No 1561) and other NIAH Garden Survey sites lie in the wider context; potential indirect impacts not assessed		assessed as it is a National Monument which, because of it's national importance, was assessed within a 10km radius (See No.18, **Figure 14-1**, **Table 14-4)**. Dromin Church was assessed as it is also known as the Catholic Church of the Holy Trinity (see No 128, **Table 14-9)**. Otherwise Rockbarton House (c 3.3km to the NE); Glebe House (c 4 6km to the NE); Bulgaden Castle (c.4.5km to the SE); Howardstown Bridge (c 5km to the W), Bruree Castle 5.5km, Athlacca Bridge (c. 4.07km), and Cahergullamore (6.2km to the N) were not assessed as they lie beyond the 3km study zone. Rathcannon Castle was assessed in the Recorded Monuments section (See **Table 14-8**).The 3km study zone is deemed appropriate based on professional experience
		4	The Grid Connection and Turbine Delivery Routes may affect two historic stone bridges: Ferry Bridge (RPS 257) and Sixmile Bridge (RPS 455). Detailed mitigation for protection during abnormal loads and roadworks is absent	Submit route-specific bridge protection methodology, licensing and works constraints, secure approvals and monitoring, incorporate into Traffic Management Plan and Construction Method Statements; use HDD where appropriate (as indicated for Carnagh/Camoge crossings).	Noted and agreed with all requested actions and conditions. These will be addressed as part of the detailed design by the consultant and prior to construction by the appointed contractor. In relation to the grid connection, horizontal directional drilling (HDD) is proposed for bridge crossings. Licensed archaeological monitoring will be undertaken during the construction/excavation of the external grid connection route within the Zones of Notification of recorded archaeological sites, particularly in the Lough Gur area (see **Section 14.7.2**).

#	Prescribed Body	#	Submission	Proposed Conditions from Prescribed Bodies	Response
		5	Within a 3 km catchment there are >200 monuments and 31 within the red line boundary; many Bronze Age sites indicate high probability of disturbing unrecorded material. The footprint involves ~52 ha direct ground disturbance (tracks, hardstands, bases, compounds, deposition areas, borrow pits) plus clear-felling and 26 km of ducting. Policy presumes preservation in situ as first option.	Appoint a licensed project archaeologist; complete pre-development geophysical survey (entire site including replanting), establish 25 m buffers from the outer extents of recorded/newly identified monuments, carry out targeted test trenching and (where required) advance excavation; provide full archaeological monitoring/reporting for all groundworks including along the 26 km GCR; redesign/omit elements if necessary to achieve preservation in situ.	Project archaeologist will be appointed. Geophysical survey and licensed test excavations are proposed. The extent of development exclusion buffers from recorded or newly identified sites will be determined on the basis of agreed mitigation following results of test excavations and liaison with NMS /LCCC. The results of the geophysics and test excavations will inform the locations of targeted monitoring following liaison with NMS /LCCC. Targeted monitoring is proposed of archaeologically sensitive areas of the 26km GCR, i.e Lough Gur area. Otherwise, as per standard practice, there is no necessity to monitor cable trenching along roads.
		6	Conditions include licensing, methodology, buffers, fencing/signage, staged test trenching, advance excavation where redesign is not feasible, monitoring of all ground disturbance (site and grid route), interim/final reporting with catalogues and ITM coordinates, and stop-work powers upon discoveries.	Attach full suite of archaeological conditions (licensing, survey, buffers, trenching, excavation, monitoring, reporting, stop-work protocols) prior to commencement and throughout construction.	Mitigation measures will include licensed geophysical survey, followed by licensed test excavations, including HDD, and intra riverine licensed investigations / surveys, and archaeological monitoring during construction work of targeted archaeologically sensitive areas determined on the results of the licensed investigations / excavations.
		7	Bat surveys from 2023 were not updated; given mobility and higher risk on lowland turbine sites, this is a gap. Carcass searches with detection dogs and post-construction monitoring are welcomed but do not compensate for the two-year data gap.	Undertake updated bat surveys before works; include carcass searches and post-construction monitoring conditions, refine mitigation informed by new data.	See response in **Section 4.15.1** of this document.

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		8	Amphibian surveys (Feb 2023) should have been repeated given 1-3 km of drainage ditch removals; wider distribution of new water features is advised rather than concentration in Area 3.	Repeat amphibian surveys at optimal season; distribute created ponds/water features more evenly; include measures in CEMP and Ecological Clerk of Works (ECoW) oversight.	See response in **Section 4.15.2** of this document.
		9	Flooded areas can attract wildfowl; night-time Whooper activity near T3 (Dec 2023) increases collision risk. Management areas may attract birds close to turbines; NIS mitigation omits specific reference to these works. Post-monitoring focuses on swans only.	Clarify and assess Whooper Swan Management Works in NIS; implement EIAR mitigation fully; broaden post-construction monitoring to all wildfowl; include collision-risk monitoring as a specific condition.	See response in **Sections 4.15.4** and **4.14.5** of this document.
		10	Specific mitigation for two borrow pits during operation needs further examination, potential biodiversity/water impacts require detailed measures.	Provide pit-specific operational mitigation (hydrology, ecology, dust/noise), include monitoring and restoration plans, ECoW to oversee implementation.	See response in **Section 4.15.3** of this document.
		11	Four turbines lie in Flood Zones A/B; substation in Zone C. Post-development modelling shows no appreciable increase in flood risk, but clarity is needed on which elements will be set above 1% AEP with freeboard and climate change. Culvert sizing should allow for blockage; no stockpiling in Flood Zones A/B, access roads in flood zones should use flood-resilient materials and be close to existing levels; crossings may require Section 50 consents	Condition elevation of essential electrical/M&E components above 1% AEP + freeboard + climate allowance, apply Section 50 where relevant; culvert/road design per flood resilience; prohibit stockpiling in A/B, include detailed drainage/flood design in CEMP.	As stated in the Flood Risk Assessment (**Section 4.4.7, Appendix 9B**), all wind turbines will be set at least 300mm above the 1% AEP flood level including climate change allowance. As stated in the Flood Risk Assessment (**Section 4.4.7, Appendix 9B**), the Substation will be set 500mm above the 0.1% AEP flood level including climate change allowance. Prior to construction of any crossings, Section 50 consent will be obtained from the OPW at all locations where this would apply. Culvert design will include sensitivity analysis and residual risk assessment to ensure the overall development design is not sensitive to culvert blockages

#	Prescribed Body	#	Submission	Proposed Conditions from Prescribed Bodies	Response
					During the construction phase, no temporary stockpiling of material is anticipated in Flood Zone A or B. Access tracks in flood zones A or B will be designed to ensure flood resilience and the levels will ensure continuity of flow, either by setting the levels as close as possible to existing levels, or by incorporating culverts or openings under the tracks to provide for adequate conveyance. The requirements for these conveyance measures are outlined in the Flood Risk Assessment **(Section 4.4.7, Appendix 9B)**.
		12	Require Pollution Prevention Plan, fencing and 20 m buffers for water bodies, fuel/oils and concrete management, waste plans, and appointment of an ECoW; settlement ponds and biosecurity provisions to prevent pollution.	Submit and implement Surface Water/SuDS specifications and Pollution Prevention Plan, maintain settlement ponds, fence watercourses; adhere to instream works window (Jul–Sep), empower ECoW to stop works if pollution risk arises.	Noted and agreed. Pollution prevention measures are incorporated into the SWMP. See **Appendix 2E Surface Water Management Plan**.
		13	Key gaps: exact entrance locations; sightlines/stopping distances/forward visibility; detailed joint chamber drawings for the GCR, relocation of joint chambers off public road, culvert/river crossing construction methodologies; Stage 1/2 Road Safety Audit; responses to RSAs.	Provide full roads/traffic information, complete RSAs (Stages 1/2 pre-commencement and Stage 3 post-completion) and address findings; submit topographical survey-based sightlines; relocate jointing chambers off the carriageway; supply culvert/river crossing methods	Noted and agreed. Entrance locations and sightlines have been provided. Please see the **Planning Application Drawings**. The exact, finalised location of joint chambers will be discussed and agreed between the applicant, EirGrid and the Local Authority as part of detailed design. Where feasible, joint chambers will be located off the carriageway, in agreement with the relevant authorities.
		14	Approx. 170 abnormal load deliveries (mostly at night) over ~6 months, need abnormal load permits, pre- and post-condition surveys (including bridges),	Condition abnormal load permitting; pre/post route surveys; detailed junction works; obtain ROLs; coordinate with Garda and Council;	Noted and agreed with all requested actions and conditions. These will be addressed prior to construction and

#	Prescribed Body	#	Submission	Proposed Conditions from Prescribed Bodies	Response
			junction/roundabout alterations, verge strengthening, temporary access track surface in places, and Road Opening Licences.	include TTMP identifying sites, parking and delivery routes; reinstate verges and drainage at access points.	delivery by the appointed contractor and will be agreed with LCCC.
		15	Limit works to 08:00–20:00 (Mon–Fri) and 08:00–16:00 (Sat); prohibit stacking on R516; provide on-site parking; wheel-wash facilities; revised Construction Management & Delivery Plan including site-specific TTMP drawings to warn road users.	Attach construction hours and TTMP requirements; enforce wheel washing and road cleaning; maintain safety signage; submit revised CMP/TTMP prior to commencement.	Noted and agreed with all requested actions and conditions. These will be addressed during the construction phase by the appointed contractor and will be agreed with LCCC prior to any works commenced.
		16	T9 plotted ~40 m off its ITM coordinates; review consistency of projections for input/output files and contours. NML4 adjacent vegetation likely inflated background at higher wind speeds; do not use NML4 for compliance determinations.	Revise mapping and noise model inputs; repeat background noise surveys in SE of study area or adopt nominal background criteria, use fourth-order polynomial for night-time regressions; clarify temporal filtering and hub-to-10 m conversion method.	Turbine coordinates used for the purposes of the noise impact assessment are provided in **Section 13.5.3.1** Wind Turbines – Proposed Development, **Table 13-22: Turbine Co-ordinates** and confirmed as correct and therefore no update to the noise assessment required. Baseline noise levels from the 6no. Noise Monitoring Locations are provided in **Section 13.4.11** Summary of Background Noise Levels, **Table 13-7: Derived levels of LA90,10min for Various wind speeds,** including the Nominal criteria. The Nominal criteria, which is the lowest background level from all NMLs per wind speed bin, are adopted to set the wind turbine operational noise limits for all Noise Sensitive Locations and a worst-case impact is therefore assessed. Noise levels from NML6 were higher than levels from other NMLs and therefore were not included in the Nominal criteria.

#	Prescribed Body	#	Submission	Proposed Conditions from Prescribed Bodies	Response
					In the expert opinion of the authors, appropriate polynomial criteria were applied following applicable guidance to provide best-fit curves.
		17	Set daytime limits consistent with ETSU-R-97 for low noise environments (35–40 dB L90 followed by +5 dB above background), and night-time fixed limit 38 dB L90 or +5 dB above background per LDP. Predicted turbine noise may exceed criteria by up to ~5.4 dB (day) and ~3.5 dB (night) at certain NSLs; turbine noise potentially up to 18 dB above background at night.	Derive new limits per ETSU/LDP; propose operational mitigation (curtailment, yaw, mode management) where exceedances occur, require access to operational data and a complaint protocol including special audible characteristics (AM, LFN, tones).	Daytime limits consistent with ETSU-R-97 are set out in **Section 13.5.3.3** Wind Turbine Noise Criteria, **Table 13-24: Summary of WEDG-06 Noise Criteria**. As set out in **Section 13.7.2** Operational Phase: "The predicted noise levels associated with the wind turbines of the Proposed Development are anticipated to operate within best practice noise criteria recommended in Irish guidance 'Wind Energy Development Guidelines for Planning Authorities, 2006' and have been assessed following guidance from ETSU-R-97 and the IOA GPG and its supplementary guidance notes. No specific mitigation measures are therefore required however, in the event of a noise exceedance or complaint, an option to mitigate using a curtailment programme is available. This would not necessarily reduce the effect significance but will ensure that it does not increase. Furthermore, if the Proposed Development is permitted and constructed, a post-commissioning noise survey with the wind turbines operating will be carried out and any exceedances of the planning conditions which can be

#	Prescribed Body	#	Submission	Proposed Conditions from Prescribed Bodies	Response
					attributed to the Wind Farm will be mitigated by curtailment. In the unlikely event that an issue with any special audible characteristic is associated with the Proposed Development, an appropriate detailed investigation will be undertaken and due consideration shall be given to the appropriate guidance on conducting such an investigation outlined in **Section 13.2.2.9.4**. Should a noise complaint or evidence of an exceedance of the noise limits occur, the operator shall comply with any requirements of the Planning Authority to undertake an investigation (including shutting down wind turbines for background noise monitoring if required) and the implementation of appropriate mitigation measures such as a curtailment programme on the wind turbine operations will be undertaken. The NCMP will follow the guidance outlined in the IOA GPG and Supplementary Guidance Note 5 Post Completion Measurements (July 2014). See **Section 13.7.2**.
		18	Given extensive earthworks akin to mineral extraction, BS 5228-1 2009+A1 2014 and Mineral Policy Statement 2 suggest 55 dB LAeq,1hr daytime limit for long-duration works to protect nearest receptors	Condition daytime construction noise limit 55 dB LAeq,1hr where duration ≥ six months, include monitoring and mitigation in CMP.	A summary of Mineral Policy Statement 2 is provided in **Section. 13.2.1.2**. Minerals Policy Statement 2 however, the duration of construction works is expected to be Temporary and Mineral Extraction works are typically Long-term

#	Prescribed Body	#	Submission	Proposed Conditions from Prescribed Bodies	Response
					Therefore, in the expert opinion of the author, Mineral Policy Statement 2 does not provide appropriate guidance.
		19	Worst-case modelling indicates up to 99 houses >30 h/year and 126 >30 min/day; the 'realistic' model (29% factor) may not protect receptors on sunny, worst-case operational days. Met Éireann station details used for sunshine assumptions not provided.	Mandate automated turbine shutdown to eliminate shadow flicker at any dwelling, including blade rundown time; provide weather station source and assumptions; monitoring and complaint response procedures.	Noted. Shadow Flicker Control Modules will be installed to shut down turbines during periods shadow flicker is likely to occur at receptors. Weather Station used is named in **Chapter 15** of EIAR, Shannon Airport Meteorological Station.
		20	Strict biosecurity near watercourses, restrict instream works to Jul–Sep; fence cattle access, provide alternative drinking points, enhance riparian planting to support river thermal regimes under climate change.	Incorporate biosecurity protocols, seasonal constraints, fencing and riparian planting into CEMP, maintain settlement ponds, locate silt traps for access and hydraulic loading resilience.	Bio-security measures are set out in **EMP 10: Management of Invasive Species,** contained within the Construction and Environmental Management Plan (CEMP) provided in **Appendix 2A** of the EIAR.
		21	Members cited a local community health study (126 respondents; ~50% within 1 km) indicating households with autism/neurodivergence, sensory processing difficulties, mental health conditions and sleep disturbance; they recommended HSE consultation and raised concerns about infrasound and shutdown response timing for shadow flicker.	Engage HSE and include health impact considerations in mitigation (noise/shadow controls, complaint handling), ensure real-time shadow flicker curtailment system performance, communicate transparently with affected households.	Noted and agreed. The queries raised by Members in relation to community health, including potential impacts on sensitive receptors, are acknowledged. The applicant notes the HSE submission, which confirms that the NEHS considers there to be adequate protection of Public and Environmental Health during the construction phase, provided that all proposed mitigation measures are fully implemented. To ensure full compliance with the 2006 WEDGs and in line with the 2019 Draft Guidelines, shadow flicker control modules (SFCMs) will be installed on the relevant turbines. These modules will automatically curtail turbine operation during predicted

#	Prescribed Body	#	Submission	Proposed Conditions from Prescribed Bodies	Response
					shadow flicker events—based on sun angle, turbine position, and time of day, thereby eliminating shadow flicker at all affected receptors. The applicant is committed to ongoing engagement with the HSE as appropriate.
		22	Members sought assurance on specialist Fire/Emergency Services training and associated costs; Fire Service raised no objection but wider emergency planning implications were noted.	Agree emergency response protocols and training plans; coordinate with Fire Service; include in CMP and Decommissioning Plan	Noted and agreed. Training and emergency response protocols will be agreed with the relevant emergency services. Decommissioning plan will be part of a separate planning application EMP12. Emergency Response Plan is included in the CEMP (**Appendix 2A**), which will be further detailed and agreed with the relevant emergency services in the CEMP pre-construction.
		23	Members reported towns/villages omitted in maps, giving impression of no settlements; T9 plotted incorrectly in EIAR **Chapter 13**; request robust geospatial QA/QC across documents.	Provide corrected mapping with settlements; rectify turbine coordinates; certify GIS inputs/outputs; resubmit affected chapters (e.g., Ch 13, Ch.14).	The planning application and associated documents and drawings include numerous maps and figures which outline towns/villages in the vicinity of the proposed development. **Section 5.3.3** also outlines the towns and villages. The turbine coordinates are included in numerous places in the application including **Table 2-2** and **Table 13-24**. Figures included in the chapters/appendices are included for visual purposes only. Detailed **Planning Drawings** accompanying the application.

#	Prescribed Body	#	Submission	Proposed Conditions from Prescribed Bodies	Response
		24	Extended construction HGV flows (peak ~142/day; 16/hour); potential distraction from tall turbines; need detailed TTMP, signage, and coordination to manage safety at schools and sensitive receptors along GCR.	Submit detailed TTMP including school zones and sensitive receptors; off-peak deliveries, Garda escort for abnormal loads; road safety signage, monitor compliance.	Noted and agreed with all requested actions and conditions A Traffic Management Plan is included as **Appendix 16A**. This will be finalised and updated prior to construction and provided to LCCC/relevant authorities to include the requested detail and to comply with any condition of planning.
		25	Members expressed concern that GCR works in the public road corridor could constrain future residential/commercial access points and development.	Provide GCR design that preserves scope for future entrances; consult planning/roads on long-term corridor management, record as-built utility locations	Noted and agreed with all requested actions and conditions These will be addressed as part of the detailed design by the consultant and prior to construction by the appointed contractor. The GCR will not prevent or constrain any future residential/commercial access points or development.
6.	TII	1	EIAR identifies Foynes as port of entry; haul routing via N69, N18, M20, N20 with 'minor and temporary works' to facilitate delivery. TII requires the developer to consult PPP Concessions, MMaRC Contractors and local road authorities to maintain the strategic function of national roads; refer any agreed proposals/mitigations to TII for conditioning. Temporary works within any MMaRC boundary require prior contact at thirdpartyworks@tii.ie for a works-specific Deed of Indemnity. All works must comply with TII Publications and be subject to Road Safety Audit; obtain licences/approvals before works, reinstate all overground/underground assets to relevant standards. Any pavement damage from abnormal 'length' loads (e.g., surface tearing at turns) must be rectified to TII	Condition to consult all relevant road operators over which the haul routes traverse to ascertain any operational requirements such as delivery timetabling, etc. and to ensure that the strategic function of the national road network is maintained. Refer and agree mitigation with TII, obtain Deed of Indemnity, carry out Road Safety Audits; secure permits/approvals; reinstate/repair assets to TII standards	Noted and agreed. Consultation will take place with all relevant road authorities and operators, and all haulage and associated works will be carried out in full compliance with TII requirements, standards and procedures.

#	Prescribed Body	#	Submission	Proposed Conditions from Prescribed Bodies	Response
			Pavement Standards with details agreed with the Road Authority before site works.		
		2	Application is unclear on abnormal 'weight' loads for turbine/substation delivery. Loads outside SI 5 of 2003 weight limits require permits from each Local Authority along the route. All national-road structures on the haul route must be checked to confirm they can accommodate proposed loading where vehicle + load exceeds permissible weights. TII notes abnormal loads (>46 t, <180 t) and Exceptional Abnormal Loads (>180 t) and requires full structural assessment for any EAL per TII AM-STR-06048, with reference to Department of Transport Circular RW18/2024. Full details of abnormal/EAL transport must be agreed with planning and road authorities before commencement.	Require clarification of abnormal-weight movements; obtain permits; assess each structure; undertake EAL assessments; agree full abnormal/EAL transport plans before works.	Noted and agreed with all requested actions and conditions. Consultation will take place with TII to ensure all works will be carried out in full compliance with TII requirements, standards and procedures. Full details of abnormal transport will be agreed with planning and road authorities before commencement. Pre and post construction road surveys will be undertaken, with any issues attributed to the proposed development rectified.
		3	CAP 2024 section 12.4.1.1 supports using road/rail corridors 'where this is the optimal solution'. TII requests a full alternatives assessment (including non-road options) because 110 kV cables in national roads can cause technical safety/maintenance issues (e.g., differential settlement after trench backfilling) and increase lifecycle costs. TII points out EIAR **Appendix 2D Section 2.2.1** states TII 'has previously refused permission' to install HV cables in motorway/national primary roads, TII says this is misleading because TII is not a planning authority and is often not the road authority—statement needs clarification/correction. TII queries why a 'loop-in' to the nearby 110 kV overhead line (Charleville–Killonan), as proposed for the Garrane project, was not pursued, and why inter-project coordination was not attempted, given c. 27 km of public road routing including the N24. If national-road routing is still judged optimal, routes must avoid impacts	Require alternatives assessment to confirm optimal route, correct/clarify EIAR statement, examine OHL loop-in and project coordination; if using national roads, condition avoidance of TII assets, obtain separate approvals, and enforce DN-STR-03012 crossings guidance.	It is noted that TII make reference to the Garrane application for a loop-in and query why this wasn't proposed for Ballinlee. Garrane benefits from being located directly under a 110kV overhead line and therefore an on-site 110kV loop in connection complies with EirGrid guidelines and requirements. In contrast, Ballinlee is located several kms away from the overhead line and would likely require two substations to be built comprising a loop-in sub-station under the line (like Garrane) and a second substation on site, with a 110kV cable linking the two. This would represent a significant infrastructure build out with increased potential for environmental impacts and costs.

#	Prescribed Body	#	Submission	Proposed Conditions from Prescribed Bodies	Response
			to existing TII assets and comply with TII DN-STR-03012 section 5.5 (≥10 kV cables not located on/over bridges; crossings to pass below at sufficient depth).		Furthermore, Ballinlee is proposing to connect 76.5MW of power, which in conjunction with other existing, consented and proposed projects would represent a serious over-subscription on the line leading to grid congestion and high levels of foregone wind generation due to the fact that the lines cannot handle the amount of power. There is very limited scope for EirGrid to upgrade this circuit owing to the challenging ground conditions and high density residential encroachment to the overhead lines on approach to Kilbarry substation. Consultation with EirGrid in April 2024 confirmed that a cable connection to Killonan, which was recently completely refurbished was deemed a reasonable alternative for the project from a grid perspective (**Appendix 4A** Route Options Report, Volume III, EIAR) It is further noted that the 27km cable proposed as part the Ballinlee project will form part of the national grid once energised and will be under the management of ESB Networks and Eirgrid and will therefore provide a wider system benefit to the grid Alternative connections to the 220/110kV Killonan Substation and to 110kV Limerick Substation were considered in **Chapter 3** Alternatives of the EIAR and an underground route to Killonan substation within the curtilage of the public road for

#	Prescribed Body	#	Submission	Proposed Conditions from Prescribed Bodies	Response
					the majority of the route was selected as the preferred grid connection option. A proposed loop in connection to the overhead line was not considered a reasonable alternative by the developer for the comprehensive reasons set out above. Consultation will take place with TII to ensure all works in the national road will be carried out in full compliance with TII standards and procedures
		4	TII recommends consultation with Limerick City & County Council internal project/design staff for any Greenway or Active Travel proposals in the vicinity of works.	Consultation with Limerick City and County Council in relation to any Greenway / Active Travel in the vicinity of the proposed works.	Noted and agreed. The applicant will consult with Limerick City and County Council's internal project and design teams in relation to any existing or proposed Greenway or Active Travel schemes in the vicinity of the proposed works. This consultation will be undertaken at the appropriate stage to ensure that the development does not adversely affect current or planned Active Travel infrastructure and that any necessary coordination measures are identified and implemented
		5	TII states no part of its submission constitutes consent to access or alter national road assets (drainage regimes, restraint/safety systems, ducting, HDD crossings, structures, etc). Any damage caused to national road or associated assets must be fully remediated to TII Publications standards, TII will pursue costs for remediation.	Include condition noting no implied consent and full cost liability to remediate any damaged TII assets to TII standards.	Noted and agreed

4. Responses to Issues Raised by Members of the Public

4.1 General Response to Issues raised by Local Residents

Visual impact, noise and vibrations, ecology, shadow flicker, traffic, human health, and water, alongside queries in relation to public consultation/engagement were the main issues raised throughout the submissions from local residents. The subsections which follow provide responses to the key questions raised. These deal with a broad spectrum of queries raised (i.e. visual, shadow flicker, traffic, cultural heritage and ecological).

In order to avoid repetition, the applicant has not responded individually to each of the individual submissions, but have instead grouped together similar issues and provided a response on a thematic basis.

Almost all the issues raised were fully and systematically assessed in the EIAR, in compliance with the specific required impact assessment methods specified in the various national and European EIA guidelines and other directives. While pre-mitigation effects were identified, the EIAR and CEMP includes a variety of mitigation measures that will ensure that the post-mitigation residual effects are minimised and not significant.

4.2 Public Consultation / Community Engagement

A number of observers in submissions to An Coimisiún Pleanála raised queries regarding community engagement and public consultation carried out in respect of the proposed Ballinlee Wind Farm development. Many submitters stated that they had received limited or no direct notification of the project, and that opportunities for meaningful dialogue between the developer and the local community were insufficient. These queries centred on the absence of open public meetings despite requests from community representatives, reliance on individual appointment-only "consultation clinics," and a consultation timeline that observers considered too short and initiated only after key design decisions had already been made. In the view of these observers, such practices restricted transparent and collective discussion of the project's potential impacts and did not allow community feedback to genuinely inform project design or mitigation measures.

RESPONSE:

The queries raised by a number of observers regarding the adequacy of public consultation and community engagement in respect of the proposed Ballinlee Wind Farm are noted. However, when assessed against the documentation submitted with the planning application, these queries are not supported by the evidence contained within the EIAR.

Chapter 1 (Introduction), **Section 1.4.3**, and in particular **Section 1.4.3.2**, together with **Appendix 1B** (Stakeholder Consultation and Responses) and **Appendix 1C** (Community Engagement Report) of the EIAR, clearly set out the scope, timing and nature of the public consultation and engagement activities undertaken by the applicant prior to the submission of the planning application. These sections demonstrate that multiple rounds of structured, proactive and accessible community engagement were carried out over an extended period.

The EIAR confirms that consultation was not limited to a single engagement method, but instead comprised a range of complementary measures, including public notices, direct written communication, door-to-door engagement, individual meetings, community consultation clinics, and ongoing opportunities for dialogue. This multi-layered approach was designed to maximise accessibility for local residents and stakeholders and to facilitate both individual and collective engagement.

In this regard, the Community Engagement Milestones detailed in **Appendix 1C** (Community Engagement Report) of the EIAR and illustrated in **Figure 6** of that appendix) set out a clear and chronological record of consultation activities, including:

- the launch of a dedicated project website with contact details for the community team;
- advance newspaper advertisement announcing the commencement of community engagement;
- direct contact with elected representatives at national and local level;
- written notification to households within 1 km of the project;
- door-to-door visits to local residents;
- additional in-person consultations at residences upon request;
- two rounds of community consultation clinics held at a local venue; and
- ongoing engagement with residents, community groups and representatives by phone, email and in person.

For ease of reference, the principal consultation activities are summarised below:

Table 4-1: Summary of Principal Consultation Activities

Date	Description of Activity
23rd May 2025	Project Website Launched www.ballinleegreenenergy.ie with contact details for the Community Team
28th May 2025	Advertisement published in the Limerick Leader newspaper announcing the commencement of community engagement
30th May 2025	All local representatives, including TDs and Councillors, were contacted in relation to the project proposals via phone and email
30th May 2025	Letter and Leaflet posted to households within 1km of the project
17th – 19th June 2025	Door-to-door visits to all residents within 1km of the project
June & July 2025	Additional in person consultation at residences by request
6th August 2025	Invitation to Community Consultation Clinics posted to all households within 1km of the project
26th & 27th August 2025	Community Consultation Clinics held by appointment in the Deebert Hotel, Kilmallock, Co. Limerick
18th September 2025	Second Round of Community Consultation Clinics held by appointment in the Deebert Hotel
Ongoing	Engagement with residents, community groups and local representatives in person, and via phone and email

In relation to queries that consultations were appointment-based rather than open public meetings, it is noted that the approach adopted enabled focused, one-to-one engagement, allowing residents to discuss site-specific concerns in detail with the project team. This format does not preclude transparency, nor does it undermine the

legitimacy of the consultation process, particularly where it is supplemented by written materials, door-to-door engagement, and ongoing availability of a dedicated community liaison officer.

It is also noted that all observers who have queried the consultation process were clearly aware of the proposed development and exercised their statutory right to participate fully in the planning process by making submissions to An Coimisiún Pleanála. This further demonstrates that the consultation strategy was effective in disseminating information about the project and facilitating public participation.

Ballinlee Green Energy has confirmed its continued commitment to meaningful, transparent and ongoing community engagement, both during the planning process and, if consent is granted, throughout the construction and operational phases of the development. Residents and stakeholders are encouraged to engage with the project team via the dedicated community liaison officer, by phone or email, or through the project website on www.ballinleegreenenergy.ie

In summary, the EIAR demonstrates that public consultation for the proposed development was extensive, proportionate and consistent with best practice, and that it went well beyond statutory minimum requirements. Any assertion that consultation was inadequate, tokenistic or commenced only after key decisions had been made is therefore not borne out by the evidence submitted with the application.

4.3 Setback Distances

A number of observers in third-party submissions to An Coimisiún Pleanála raised queries regarding the setback distances between the proposed turbines and nearby residential properties as part of their objections to the Ballinlee Wind Farm. These submissions generally expressed the view that the proximity of large-scale turbines to homes would give rise to unacceptable impacts on residential amenity, health and quality of life, and that greater separation distances should therefore be required. Several observers contended that the proposed setbacks were insufficient by reference to what they described as international best practice or alternative guideline standards and argued that turbines of the proposed scale should not be located in close proximity to existing dwellings.

In this regard, submissions stated that the proposed turbines could be located within approximately 500 m of homes, which they considered to be "*far below internationally recommended setback distances (often 1–2 km or more) to mitigate health and amenity impacts*." These submissions suggests that fixed minimum setback distances of this magnitude should apply, irrespective of site-specific assessment, turbine design, or compliance with applicable Irish planning guidance.

Similarly, submissions referred to provisions within the Wind Energy Development Guidelines (2006), asserting that "*no turbines taller than 30 metres be located less than 7.5 times its height from a dwelling*," and further contended that such guidance should preclude the siting of turbines with a tip height of approximately 160 m in proximity to homes. These submissions interpret earlier guideline references as imposing a restrictive separation standard and argues that turbines of modern scale should therefore not be located near residential properties.

Other submissions referred to what they considered to be outdated guidance and contended that the Draft Revised Wind Energy Development Guidelines (2019) should instead be applied. In this context, reference was made to the draft provision for a setback distance equal to four times the tip height of the relevant wind turbine between each turbine and the nearest point of the curtilage of any residential property, subject to a mandatory minimum setback of 500 m from that residential property.

Taken together, these submissions reflect a concern among some observers that the proposed development does not provide adequate separation between turbines and dwellings, and that greater setback distances should be applied as a matter of principle. These concerns are generally framed by reference to perceived international

norms or interpretations of historic or draft guidance, rather than by reference to detailed technical assessment of noise, shadow flicker, visual impact, and compliance with the applicable Irish planning framework

RESPONSE:

The queries raised by third-party observers in relation to setback distances are noted. However, these queries are not supported when considered in the context of the applicable Irish planning framework and the detailed design and assessment undertaken within the EIAR for the proposed development.

As set out in **Chapter 1, Section 1.4.2** of the EIAR, the proposed Ballinlee Wind Farm has been designed and assessed in accordance with the Wind Energy Development Guidelines (2006), which remain the statutory guidance currently in force. The EIAR explicitly acknowledges the existence of the Draft Revised Wind Energy Development Guidelines (2019) and confirms that, while these draft guidelines have not yet been adopted, their provisions have nevertheless been considered as part of the assessment process. In this regard, the EIAR states:

"The proposed development has been designed and assessed in compliance with the Wind Energy Planning Guidelines (2006). The Draft Revised Guidelines (2019) contain changes to the guidelines for noise, setback distances, shadow flicker and community consultation/dividend provision, but these have not yet come into force. Whilst the revisions are considered in this report, the proposed development is designed and assessed against the current Guidelines in place."

Notwithstanding their draft status, the EIAR demonstrates that the proposed development meets the setback principles set out in the Draft Revised Wind Energy Development Guidelines (2019). These draft guidelines require, for visual amenity purposes, a setback distance equal to four times the turbine tip height between each turbine and the nearest point of the curtilage of any residential property, subject to a minimum mandatory setback of 500 metres, and further subject to compliance with the proposed noise limits. This approach has been systematically applied to the layout of the proposed wind farm. As confirmed in **Chapter 3, Table 3-2** of the EIAR, a setback distance of 640 metres (4 × 160 m) has been applied for turbines T1–T5 and T7–T17, and 600 metres (4 × 150 m) for T6, in accordance with the draft guideline methodology. The EIAR confirms that:

"This setback is achieved at the proposed development. There are no existing residential dwellings within 640 m of T1–T5 and T7–T17 and within 600 m of T6."

Accordingly, the assertion by certain observers that turbines are proposed at distances materially below recommended guidance, or that fixed setbacks of 1–2 km should apply as a matter of principle, is not supported by either current Irish planning policy or the provisions of the Draft Revised Guidelines (2019).

In addition, queries regarding safety-related setbacks are addressed through compliance with draft guideline requirements for separation from public infrastructure. As outlined in **Section 3.5.1.4** of the EIAR, setback distances from national and regional roads have been applied in accordance with the Draft Revised Guidelines (2019), which specify a distance equal to the turbine height plus 10%. The EIAR confirms that setback distances of 176 m (for 160 m turbines) and 165 m (for 150 m turbines) from public roads have been incorporated into the proposed layout.

Overall, the EIAR demonstrates that setback distances at the proposed Ballinlee Wind Farm have been carefully considered, and are policy-led, and proportionate, taking account of both the statutory 2006 Guidelines and the emerging best-practice framework set out in the Draft Revised Guidelines (2019). The proposed development therefore does not rely on arbitrary or outdated separation standards, but instead reflects a site-specific design informed by contemporary guidance and supported by detailed technical assessment, including noise, shadow flicker, landscape and visual impact evaluation.

4.4 Future Development

A number of observers in third-party submissions to An Coimisiún Pleanála expressed queries about the potential impacts of the proposed Ballinlee Wind Farm on local property values and the future development prospects of their properties and rural communities. Many submitters stated that the siting of large turbines in close proximity to homes would, in their view, reduce residential amenity, make properties more difficult to sell, and materially devalue their principal financial assets. Some observers also linked these economic impacts to wider socioeconomic uncertainty for families and local landholdings, including effects on local livelihoods and community sustainability if properties became harder to sell or develop.

To support queries about property devaluation reference was made to an Irish working paper published by the Centre for Economic Research on Inclusivity and Sustainability (CERIS), *Wind Turbines and House Prices Along the West of Ireland: A Hedonic Pricing Approach* (Gillespie & McHale, 2023),

RESPONSE:

Preclusion of Future Development –

The presence of a wind farm does not automatically preclude future housing development in Ireland. Planning authorities assess housing applications on their own merits, based on current planning policy, local development plans, and technical standards, not on the existence of a nearby wind farm. National guidance, including the Wind Energy Development Guidelines 2006 and the draft revised 2019 guidelines, set minimum requirements for turbine setbacks, noise, and shadow flicker relative to existing dwellings, but these guidelines are designed to protect the amenity of existing homes rather than to block future development.

(https://www.gov.ie/en/department-of-housing-local-government-and-heritage/publications/wind-energy-development-guidelines-2006/),

(https://www.gov.ie/en/department-of-housing-local-government-and-heritage/publications/draft-revised-wind-energy-development-guidelines-december-2019/)

If a housing proposal is submitted near an operational wind farm, the planning authority would assess the application against relevant planning criteria, including noise limits, visual impact, access, and safety. Provided the proposed house meets these criteria, there is no legal or policy-based restriction preventing its construction. While a developer might need to consider the practical implications of proximity to turbines (e.g., amenity, noise, or shadow flicker), these issues are technical considerations rather than an outright barrier. In practice, many areas in Ireland successfully have housing located within a few hundred meters of operational wind farms.

In short, the existence of a wind farm is not a statutory impediment to future housing development. Any suggestion that a wind farm "locks out" future housing is speculative and not supported by national planning policy or An Coimisiún Pleanála practices. The proper approach is for each housing application to be assessed on its merits at the time it is made, taking into account the operational wind farm's compliance with planning and environmental standards.

In addition, personal preference or a general desire not to live in an area is not a material planning consideration and cannot be used to determine a planning application. The objection does not identify any specific planning harm or provide evidence to demonstrate adverse impacts arising from the proposal.

Property Devaluation -

Section 5.4.1.1 of Chapter 5 of the EIAR addressed the issue of property devaluation associated with wind energy development. That section reviews the available evidence base and concludes that there is no substantiated basis for widespread or systematic property value impacts arising from wind farm developments. The following text provides cross-referencing context and supplementary information where relevant.

In the absence of any substantive, peer reviewed Irish studies on the effect of wind farms on property values, recent studies from the United States and Scotland are considered. The largest study of the impact of wind farms on property values was carried out in the United States. *'The Impact of Wind Power Projects on Residential Property Values in the United States: A multiSite Hedonic Analysis'*, December 2009, was carried out by the Lawrence Berkley National Laboratory (LBNL) for the U.S Department of Energy. It concluded that *"no evidence was found that home prices surrounding wind facilities are consistently, measurably, and significantly affected by either the view of wind facilities or the distance of the home to those facilities"*.

The study was updated by Lawrence Berkeley National Laboratory (LBNL) who published a further paper entitled *"A Spatial Hedonic Analysis of the Effects of Wind Energy Facilities on Surrounding Property Values in the United States"*, in August 2013. It concluded that no statistical evidence was found that *"home prices near wind turbines were affected in either the post-construction or post announcement/pre-construction periods"*.

A more recent study published by Climate Exchange in October 2016 titled *'Impact of wind Turbines on House Prices in Scotland'* concluded that there was *"no evidence of a consistent negative effect on house prices"*. Taking these studies into consideration, it is not anticipated that the proposed development will have any detrimental effect on the local property values.

More recently, an Irish working paper published by the Centre for Economic Research on Inclusivity and Sustainability (CERIS), *Wind Turbines and House Prices Along the West of Ireland: A Hedonic Pricing Approach* (Gillespie & McHale, 2023), examined listed house prices across seven western counties. The study identified a statistically significant reduction in listed prices within 0–1 km of turbines; however, it also reported no significant effects beyond 1 km, noted that the closest-distance sample was small and not representative of broader market conditions, and observed that any detected effect diminished over time. The findings were therefore described by the authors as highly localised and context-specific.

Taking the totality of the evidence into account, including Irish, UK, Scottish and international studies, there is no robust or generalised evidence of consistent property devaluation arising from wind farm developments. Where effects have been reported, they are limited in spatial extent, diminish with distance and time, and are not reflective of broader housing market behaviour.

Accordingly, and consistent with the assessment presented in **Section 5.4.1.1** of the EIAR, it is not anticipated that the Proposed Development will result in any material or widespread impact on local property values. As set out elsewhere in **Chapter 5**, the Proposed Development is assessed as likely to result in neutral, localised, short-term effects of imperceptible significance on population and settlement patterns during the construction phase.

4.5 Noise & Vibration

Local residents have raised multiple and specific queries about noise and vibration impacts associated with the proposed Ballinlee Wind Farm. Many submissions draw on international health guidance and peer-reviewed research to question whether the EIAR's noise assessment adequately addresses the scale, character and real-world impacts of turbine noise. An example of one of the comments stated that turbines placed as close as 852 m from homes could generate low-frequency noise and infrasound linked to sleep disturbance, stress, anxiety and other health impacts, referencing the World Health Organization's Environmental Noise Guidelines as a benchmark for health protection. A similar comment lists noise and low-frequency emissions as core grounds of objection. Other observers express fear of noise pollution and associated shadow flicker degrading rural amenity, while a separate observer note that with 16 turbines within 2.5 km, they are *"guaranteed to be affected by noise and infranoise"*, lamenting the replacement of natural soundscapes with a constant hum. A further comment points out that constant turbine noise may negatively impact the wellbeing of both people and animals in the

vicinity. Collectively, these submissions underscore a widespread query that the EIAR's noise assessment may understate the potential for noise-related harm to health, tranquillity and quality of life.

RESPONSE:

The assessment of operational noise emissions as summarised in **Chapter 13** Noise and Vibration of the EIAR, complies with current guidance and best practice in relation to acceptable levels of noise from wind farms as contained in the document Wind Energy Development Guidelines for Planning Authorities published by the Department of the Environment (WEDG 2006).

The current guidance and best practice are summarised in **Section 13.2**, including World Health Organisation guidance set out in **Section 13.2.2.8** within **Chapter 13**. As stated, "The recommendations [of World Health Organization Noise Guidelines for the European Union in relation to wind turbine noise assessment] are therefore conditional and should not currently be applied as target noise criteria for existing or proposed wind turbine development in Ireland."

The assessment demonstrated that the cumulative noise levels are expected to be below the prescribed operational noise limits as set out in **Section 13.5.3.3, Table 13-25**.

Special audible characteristics including Infrasound/low frequency noise are set out in in **Section 13.2.2.10**. A summary of numerous research papers and articles was provided which included the following conclusions:

> **Irish EPA's NG3**: *"With modern active yaw turbines (i.e., the blades are upwind of the tower and the turbine is turned to face into the wind by a wind direction sensor on the nacelle activating a yaw motor) this [Low Frequency Noise] is no longer a significant feature."*
>
> **Institute of Acoustics Bulletin in March 2009**: *"A report for the DTI in 2006 by Hayes McKenzie concluded that neither infrasound nor low frequency noise was a significant factor at the separation distances at which people lived."*

A summary of the latest research into the health effects associated with wind turbine noise emission is included in **Section 13.3** Health Effects of Wind Farms. As stated in the section's summary: "The peer reviewed research outlined in the preceding sections supports that there are no negative health effects on people with long term exposure to wind turbine noise. Refer to **Volume II Chapter 5** Population and Human Health of this EIAR for further details of potential health effects associated with the Proposed Development."

Vibration effects are assessed in **Section 13.5.5** Description of Effects – Vibration and it was concluded that there would be no noticeable impact on nearby receptors or structures and therefore concluding that there would be an Imperceptible effect.

4.5.1 Regulatory Compliance

Examples of some comments in public submission relating to compliance with WHO (World Health Organisation) Noise Assessment Guidelines include:

"The EIAR (**Chapter 12** – Noise & Vibration) concludes no significant health effects but provides limited receptor specific analysis for homes within 2km and does not assess low frequency noise or amplitude modulation. This conflicts with the WHO Environmental Noise Guidelines (2018), which link wind turbine noise to sleep disturbance and reduced quality of life. Independent baseline and post construction monitoring, curtailment protocols and accessible community reporting are required."

"We would suggest that this application infringes on Articles 7 & 37 of the EU Charter of Fundamental Rights. The WHO is barely mentioned, and the developer makes no commitment to comply with WHO 2018 Noise Guidelines. The developer is relying on outdated 2006 guidelines and by not using accepted modern guideline, the developer's EIA fails to deliver. There is no evidence provided in the EIA as to the noise impact of an array of wind turbines. The measurements used in the EIA are vague and not scientifically secure. The developer provides no assessment of low-frequency and infrasound impact, especially as it relates to our home. This is, despite, well established evidence that homes near windfarms, especially in a rural location, experience low frequency noise (LFN) exceedances and perceptible infrasound."

"The EIAR uses outdated noise standards and avoids WHO 2018 limits. It does not assess low frequency noise, amplitude modulation, or night-time sleep disturbance."

"International Health bodies including the World Health Organisation (WHO) have highlighted concerns about the impacts of wind turbine noise in particular low frequency noise and infrasound, on human health. The WHO recommends noise significantly lower than what Irish windfarms produce and a setback of anything less than 10 x Tip height would be a serious risk to Public health. Hence in line with these recommendations, 160m turbines should be setback at a minimum 1.36km. The proposed setback distances of the closest 6 turbines, as well as the remaining 11 turbines (which are within 2km from our home), would put the health and wellbeing of my family and I at enormous risk."

"Predicted operational noise levels, including the potential for tonal components and amplitude modulation, are not shown to keep exposure at noise-sensitive receptors as low as reasonably achievable. This conflicts with the Directive's aim to avoid harmful effects from environmental noise. Given the quiet rural baseline, the predicted turbine noise levels, including low-frequency and modulation components—are likely to cause sleep disturbance and loss of amenity for nearby residents. This is inconsistent with WHO noise guidelines and the planning authority's duty to protect residential amenity. Noise predictions omit a robust assessment of low-frequency noise and amplitude modulation, and do not convincingly demonstrate compliance with EPA guidance and WHO health-based noise limits. This renders the conclusions on noise effects unreliable."

"The EIAR does not provide receptor specific noise assessments or consider the WHO Environmental noise guidelines."

"The planning application incorrectly suggests that a full noise assessment is not required for properties where the landowner is financially contracted to the development. This premise is legally flawed and contrary to established and emerging planning guidance and public health standards. Even where a landowner is involved, the property occupants' right to health is paramount. The draft 2019 Wind Energy Development Guidelines, which reflect evolving standards, explicitly state that contracted individuals cannot agree to a noise limit that surpasses 2018 WHO guidance for wind turbine noise. The application fails to demonstrate compliance with these essential health protective measures for all affected residences. The failure to provide a comprehensive and standards-compliant noise assessment for all habitable properties associated with the project is a material planning omission."

RESPONSE:

A comprehensive schedule of 519 no. NSLs were identified within the study area (defined as the initial 35dB noise contour) and their coordinates are listed in **Appendix 13C** – Schedule of Noise Sensitive Locations. Noise predictions were calculated to each NSL and as demonstrated and that "the proposed Project is expected to operate within the established criteria. Therefore, in EIA terms, there is no Significant effect."

The assessment of operational noise emissions as summarised in **Chapter 13** Noise and Vibration, complies with current guidance and best practice in relation to acceptable levels of noise from wind farms as contained in the

document Wind Energy Development Guidelines for Planning Authorities published by the Department of the Environment (WEDG 2006).

The current guidance and best practice are summarised in **Section 13.2**, including World Health Organisation guidance set out **in Section 13.2.2.8**. As stated, "The recommendations [of World Health Organization Noise Guidelines for the European Union in relation to wind turbine noise assessment] are therefore conditional and should not currently be applied as target noise criteria for existing or proposed wind turbine development in Ireland."

Draft Revised Wind Energy Development Guidelines published in 2019 are not current or best practice as clarified in **Section 13.2.2.6** Draft Wind Energy Guidelines 2019. The current WEDG 2006 guidance remains suitable for assessing wind turbine noise.

Noise measurements were used to establish the baseline conditions and in turn used to set the appropriate criteria. The methodology as set out in **Section 13.4.3** Baseline Noise Survey of Receiving Environment adhered to the WEDG 2006 guidance. Noise predictions included the cumulative effect of all turbines in the proposed Project and all relevant existing or permitted wind farms as set out in **Section 13.5.3.2** Cumulative Assessment.

The assessment demonstrated that the cumulative noise levels are expected to be below the prescribed operational noise limits as set out in **Section 13.5.3.3, Table 13-25**.

The assessment of Infrasound/low frequency noise is set out in in **Section 13.2.2.10** and a summary of numerous research papers and articles was provided as outlined above in **Section 4.5**.

Special audible characteristics including Tonality and Amplitude Modulation are set out in in **Section 13.2.2.10**. As stated: "it is not possible to predict the occurrence of any special characteristic at the planning stage. Post-construction monitoring programmes and campaigns following prescribed guidelines can objectively investigate these characteristics." A suitable Noise Complaint Monitoring Programme (NCMP) is set out in **Section 13.10** Operational Phase Monitoring to demonstrate compliance with the prescribed operational noise limits as set out in **Section 13.5.3.3, Table 13-25**.

Section 13.2.2.5 sets out the current guidance from ETUS-R-97 and WEDG 2006 regarding **Financially involved** properties. Such properties may have an increase to the fixed limit noise levels applied. These properties are included in the schedule of noise sensitive locations assessed. The relevant properties are identified in **Table 13-27:** Turbine Identifier A – Summary of Noise Exceedances. Even where a landowner is involved, the property occupants' right to health is paramount. The draft 2019 Wind Energy Development Guidelines, which reflect evolving standards, explicitly state that contracted individuals cannot agree to a noise limit that surpasses 2018 WHO guidance for wind turbine noise, therefore ensuring no health impacts.

4.5.2 Noise & Vibration from Construction Activities

Some observers raised construction noise and vibration impacts during the construction phase of the proposed development, highlighting both the intensity and duration of these disturbances and their effects on daily life, health and local environment.

"Noise and vibration during the ~24-month construction phase will significantly impact our daily lives... excavators digging trenches, breakers cutting through rock, and dozens of truck passes per day... wall-shaking vibrations and noise can be distressing. Structural damage... is a real possibility from sustained vibration... constant noise, beeping machinery... makes it impossible to maintain a normal home environment.":

"The noise, vibration, and bright lights from these night time deliveries will disturb families' sleep and frighten small children... The increase in traffic also raises serious safety concerns."

Collectively, these submissions show that observers have queries about intense and prolonged noise and vibration from construction, with potential consequences for residential amenity, health, safety, and environmental impacts.

RESPONSE:

Effects associated with the construction phase are comprehensively assessed in the EIAR **Section 13.5.2** Construction Phase which included construction traffic, turbine delivery route, borrow pits, substation, grid connection route, and vibration. **Table 13-22** of Chapter 13 outlines the potential worst-case effects associated with the various aspects on the construction phase, pre-mitigation. **Section 13.7.1** comprehensively outlines the mitigation and monitoring measures to ameliorate any noise and vibration effects.

4.5.3 Noise & Vibration during Operational Phase

Queries raised in the submissions included "noise from the substation, including humming from transformers and switching equipment", noise associated with the turbines such as "They would be certain to experience a multitude of serious negative effects associated with 160 m high wind turbines, at such close proximity, including massive noise disturbance", and "The constant noise and low frequency vibration."

One submission detailed potential wake effects stating "inadequate spacing between turbines is a recurring and significant cause of wind turbine noise nuisance". The submission refers to High Court findings in the Ballyduff (Meenacloughspar) and Gibbett Hill cases, where turbine noise and amplitude modulation—linked in part to wake effects between turbines—were found to cause harm to residents. The submission notes that the WEDG 2006 guidance recommends minimum separations of "three times the rotor diameter in the crosswind direction and seven times the rotor diameter in the prevailing downwind direction," and states that these standards have not been followed for the proposed development. Given that prevailing winds occur across a broad range of directions, the submission states most turbines are effectively downwind of one another and therefore requiring greater separation. The submission concludes that, with only limited turbine pairings meeting the recommended distances, the remaining sub-standard spacings are likely to give rise to wake-related turbulence and noise impacts similar to those already recognised by the courts.

RESPONSE:

The queries raised have been addressed on the following sections of the EIAR.

The effect of the Substation is assessed in **Section 13.5.6** On-site Electrical Substation (110kV), whereby the impact is considered imperceptible/not significant.

The assessment of operational noise emissions as summarised in **Chapter 13** Noise and Vibration, complies with current guidance and best practice in relation to acceptable levels of noise from wind farms as contained in the document Wind Energy Development Guidelines for Planning Authorities published by the Department of the Environment (WEDG 2006).

The current guidance and best practice are summarised in **Section 13.2**, including World Health Organisation guidance set out in **Section 13.2.2.8**. As stated, "The recommendations [of World Health Organization Noise Guidelines for the European Union in relation to wind turbine noise assessment] are therefore conditional and should not currently be applied as target noise criteria for existing or proposed wind turbine development in Ireland."

The assessment demonstrated that the cumulative noise levels are expected to be below the prescribed operational noise limits as set out in **Section 13.5.3.3, Table 13-25**.

Vibration effects are assessed in **Section 13.5.5** Description of Effects – Vibration, which outlines that no noticeable impact on nearby receptors or structures are anticipated, therefore, in EIA terms, there is an imperceptible effect.

4.5.4 Low Frequency Sounds and Infrasounds Risks

One submission stated: "We were unable to find any substantive assessment of Infrasound. While are attaching an academic research paper on this issue entitled 'High-resolution measurements near Wind Power Plants'. Infrasound is known to be a major issue with regard to wind turbines."

They also stated that "Moreover, there is significant evidence from outside of Ireland that Infrasound is an issue for people who live very close to wind turbines. Dr Mariana Alves-Pereira of Portugal has written and talked extensively on this issue. Further evidence is also available from Bruce Rapley, Huub Bakker and Rachel Summers. "Curiously we were unable to find any reference in the EIAR to 'Infrasound'."

RESPONSE:

Special audible characteristics including Infrasound/low frequency noise are set out in in **Section 13.2.2.10**. A summary of numerous research papers and articles was provided which included the following conclusions:

> **Irish EPA's NG3**: *"With modern active yaw turbines (i.e., the blades are upwind of the tower and the turbine is turned to face into the wind by a wind direction sensor on the nacelle activating a yaw motor) this [Low Frequency Noise] is no longer a significant feature."*
>
> **Institute of Acoustics Bulletin in March 2009**: *"A report for the DTI in 2006 by Hayes McKenzie concluded that neither infrasound nor low frequency noise was a significant factor at the separation distances at which people lived.*

The paper by Dr Mariana Alves-Pereira provided by the observer had in the expert opinion of the authors, numerous technical errors, failed to assess the relative change in infrasound/low frequency noise and cannot be relied upon. Please see **Section 13.2.10** of **Chapter 13** for further details. With respect to infrasonic noise levels below the hearing threshold, the World Health Organisation (WHO) document Community Noise (WHO, 1995) has stated that: "There is no reliable evidence that infrasounds below the hearing threshold produce physiological or psychological effects."

A suitable Noise Complaint Monitoring Programme (NCMP) will be implemented for the proposed development. Should a noise complaint or evidence of an exceedance of the noise limits occur, the operator shall comply with any requirements of the Planning Authority to undertake an investigation (including shutting down wind turbines for background noise monitoring if required) and the implementation of appropriate mitigation measures, such as a curtailment programme, on the wind turbine operations will be undertaken. The NCMP will follow the guidance outlined above and in the IOA GPG and Supplementary Guidance Note 5: Post Completion Measurements (July 2014).

4.5.5 Equine & Livestock Effects

Queries have been raised by local horse owners and breeders regarding the potential impacts of noise and associated disturbances on equine welfare and safety. Horses are widely recognised as highly sensitive, flighty animals with acute hearing and vision, making them particularly vulnerable to changes in their environment

A submission states: "a full circle of vision, better sight in low light, and are far more sensitive to sound frequencies than humans," and it is "well documented that the noise and shadow flicker coming from wind turbines has an adverse effect on horses, with safety implications for horse handlers and riders", and further highlights that "noise anxiety" can have long-term effects on food intake, growth, and production rates.

These queries extend to breeding and reproductive impacts, with one submission emphasising that stress from noise can be particularly harmful to in-foal mares, stating that they are "extremely sensitive" and that such stress "can cause mares to abort pregnancies."

Other residents, draw attention to the practical and safety implications of noise and construction activity, explaining that horses "can be easily spooked by noise, machinery, or unfamiliar activity," creating serious risks for both animals and riders, especially children and caution that construction activity, turbine noise, and flashing lights could easily startle the animals, leading to panic or injury and endangering those responsible for their care. They warn that disruption to familiar exercise routes would increase stress and fundamentally disrupt the horses' routine and wellbeing.

Collectively, these queries underline the need for careful consideration of noise and vibration, and their potential impacts on horse welfare, breeding outcomes, and human safety.

RESPONSE:

Wind farms have been developed on agricultural lands all over the world and do not displace livestock farming. In many cases the additional income from wind turbines for involved landowners improves the financial viability and sustainability of farming operations. Research has been undertaken to assess the impact of wind turbines on wild animals and domesticated livestock. In a 2012 review of such research around the world commissioned by the Swedish Environmental Protection Agency, the authors of the report found that the theory that the noise and movement of turbines in operation would annoy or stress wildlife and livestock was not supported by the research that was available. These studies showed there was a lack of such effects or that animals quickly habituated to the disturbance. Consequently, the impact was limited.

Additional studies on the effects of noise on domestic animals found that high noise levels that would cause stress responses in domestic animals (i.e increased respiration and heart rate, increased vigilance and decreased time grazing) would be in the range of 60-75dBA. Noise measurements directly under a wind turbine were found to be between 50 and 60 dBA in this study, which is lower than the above-mentioned noise levels that would cause stress reactions.

4.5.6 Risk of Cumulative Impact with Other Energy or Infrastructure Projects

Objectors stated the below in relation to the risk of cumulative impact:

"In the absence of any investigation on the cumulative impact on health directly or as pathways to ill-health and the environmental impacts of this application in combination with two wind farms already proposed by the same applicant for the nearby Bruree and Coolcappa areas, I request that a full and comprehensive cumulative impact assessment should be required. This would cover cumulative effects on: Biodiversity, Soils and Geology, Noise and Vibration, Infrasound, Water Environment, Air Quality and Climate, Population and Human Health, Major Accidents and Disasters."

"There are existing, permitted, and proposed wind farms within the wider region. EPA EIAR Guidelines (2022) require full cumulative assessment. This has not been meaningfully done. Residents are expected to endure cumulative noise, ... as the area becomes industrialised."

RESPONSE:

Noise predictions included the cumulative effect of all turbines in the proposed Project and all relevant existing or permitted wind farms as set out in **Section 13.5.3.2** Cumulative Assessment.

The assessment demonstrated that the cumulative noise levels are expected to be below the prescribed operational noise limits as set out in **Section 13.5.3.3, Table 13-25**.

Chapter 5 Population and Human Health concludes that it is unlikely that significant adverse impacts to population and human health will occur as a result of the proposed development. The potential for cumulative impacts caused by other past, present or reasonably foreseeable future actions together with the proposed development is fully assessed.

4.6 Water

4.6.1 Flooding Risks

Approximately one third of the submissions from local residents raise queries regarding flooding, emphasising that the proposed development is located within a historically flood-prone landscape, and that the EIAR does not properly reflect this reality.

Objectors contend that the Ballinlee site is "unsuitable for largescale wind energy development because of ... flood risk". It is argued that "turbine foundations, crane hardstands, and access roads will increase impermeable surface area, exacerbating local flood risk and water pollution" and note that "No comprehensive Flood Risk Assessment appears in the EIAR", asserting a fundamental gap in the assessment of flood hazards. Another objector draws attention to the EIAR's own flood modelling, pointing out that "4 of the 17 no. turbines are located within Flood Zone A/Flood Zone B, therefore having a high to medium probability of flooding during the 1% and 0.1% AEP" and argue that "construction of these turbines could significantly increase flood risk damage to ... surrounding houses." Queries were also expressed that even where mitigation is proposed, "the residual risk remains high due to potential peat disturbance and water table changes" in flood prone lands. It was also raised that infrastructure elements such as turbines, temporary delivery routes (TDR) and the ESB substation are located on known floodplains and that "the change in permeability and run off rates of the proposed sites could ... exacerbate this". Reference was also made to the EPA climate adaptation guidance, emphasising that "the EPA's 2022 Guidance on Climate Adaptation and Flood Risk requires developers to demonstrate no increase in Flood risk elsewhere," and assert that increased flood risk along key access and evacuation routes is "unacceptable."

These general queries are reinforced by other objectors, who highlight the discrepancy between local experience and the developer's assessment. "Flood-prone roads [and] fragile water systems ... will be further stressed," and that "local flooding events are more frequent than acknowledged in the developer's assessments, showing a serious gap in understanding of local conditions." are some of the objections. Examples were also raised, noting that the L5127 was flooded two years ago, preventing residents from leaving their homes, an event that was "not documented by the developer". Flooding is raised as "a persistent and well-documented problem" in Camas North, Camas South and Carrigeen, observing that while the developer's own documentation recognises regular flooding in these areas, the proposal nonetheless includes "extensive construction activity, drainage modifications and new infrastructure that would almost certainly worsen the situation". Photographic evidence from Carrigeen dated 12/11/25 was also submitted, stating that it "clearly shows the extent of flooding, confirming what local residents experience every year," and warnings that additional infrastructure and altered drainage patterns could intensify flood risk for communities already facing difficulties obtaining home insurance.

These queries are throughout objections, similar to "As the northern section of the site is classified as a natural floodplain, it strikes us as wholly inappropriate to disturb this landscape in which to build an industrial facility. This

area regularly floods. It is strongly submitted therefore that this area is fundamentally unsuitable for this type of development, which would require enormous disruption and interference with habitats and floodplains with the imposition of internal access roads, etc. As it happens there has been a notable rainfall event in November 2025, which have caused significant amounts of flooding in the area".

Inappropriate Site Selection was another issue raised, stating "The proposed development area is within an OPW mapped 'Flood Zone A' site, which has a very frequent ACTUAL return period of flooding adjacent to roads that are used by people to go to work and school. Flooding of lands is one thing. Creating a public health hazard is another and should be avoided. The rivers are all mapped as 3rd Cycle At Risk. Whilst construction is not a reported pressure or issue at the moment, that does not mean that construction is viable either."

Local area flooding was raised by an objector, stating "In relation to Flooding, page 39 of the proposed Ballinlee Wind Farm's Flood Risk Report (**Appendix 9B**, MWP September 2025) presents 'spin' and bias. Neither of these elements are recommended for a Flood Risk Analysis assessment. One needs to read between the lines, with a critical perspective, to realise that the entire development is proposed in an OPW Flood Zone of some scale."

"The Department of the Environment, Heritage and Local Government / Office of Public Works. (2009) The Planning System and Flood Risk Management – Guidelines for Planning Authorities. Dublin: Government of Ireland clearly states that "Most types of development would be considered inappropriate in this zone. Development in this zone should be avoided and/or only considered in exceptional circumstances, such as in city and town centres, or in the case of essential infrastructure that cannot be located elsewhere, and where the Justification Test has been applied. Only water-compatible development, such as docks and marinas, dockside activities that require a waterside location, amenity open space, outdoor sports and recreation, would be considered appropriate in this zone". - **Section 3.5**, p.24 "

Regarding local knowledge and experiences, it was submitted that "In the matter of Hydro-G's evaluation of the actual return period and evidence of flooding in the vicinity of the proposed Ballinlee Wind Farm site, local information was provided by the community who have been documenting the experiences along the roads in November 2025. The Flood Risk Assessment has underestimated the actual frequency of flood events. The area is significantly more flood prone than the Flood Risk Assessment for the proposed development has portrayed it to be. The fact that that the area's flood frequency has been greatly under-estimated supports a conclusion of no confidence in the Flood Risk Assessment's claim that the development "does not have the potential to significantly increase upstream or downstream flood risk." The misrepresentation of the absorption capacity of the natural environment in the development area amounts to a breach of Annex III of DIRECTIVE 2011/92/EU. The proposed development should be refused on this basis."

Concern was also documented regarding unassessed construction impacts arising from soil compaction in a flood zone with "The proposal to bring large cranes into this wetland and flood zone presents real risks of increasing the already frequent flood experiences. The actual flood risks presented will result from applying mass loads to a wet soil and thereby destroying what small pore space there may have been. The Flood Risk Assessment HAS NOT simulated the compaction along proposed internal haul routes and construction pads."

Together, these submissions underscore a shared view among local observers that the EIAR understates flood risk, relies excessively on mitigation rather than avoidance, and does not demonstrate that the proposed development can proceed without exacerbating flooding impacts locally or downstream.

RESPONSE:

Flood risk has been comprehensively assessed in **Chapter 9** (Water) of the EIAR and is not understated. A site-specific flood risk assessment (SSFRA) (**Appendix 9B**) was undertaken by MWP (2025) in accordance with The Planning System and Flood Risk Management – Guidelines for Planning Authorities (OPW/DoEHLG, 2009), including application of the sequential approach and, where relevant, the justification test.

The SSFRA followed a staged approach (Stages 1–3) and identified fluvial flooding from the Morningstar River and its tributaries as the principal flood mechanism, particularly in the northern part of the site. A detailed quantitative assessment was completed using industry-standard methods, including Flood Studies Update 2 (FSU2) and Poots & Cochrane hydrological estimation, and a combined 1D–2D hydraulic model (HEC-RAS) to define baseline flood extents and levels for the 1% and 0.1% AEP events, including climate change allowances.

The modelling confirms that the majority of the development, including the on-site substation and most turbines, are located in Flood Zone C (low probability of flooding). Four turbines intersect Flood Zones A/B; however, these locations were subject to detailed assessment and design. The EIAR demonstrates that floodplain function is maintained through embedded design and mitigation measures, including defined freeboard allowances (0.1% AEP + 500 mm for the substation; 1% AEP + 300 mm for turbines, controlled track elevations, and engineered conveyance measures beneath and across access tracks to preserve overland flow paths and drainage connectivity (EIAR **Chapter 9 Section 9.2.7; Appendix 9B, Section 4.4**).

Potential effects from turbine foundations, tracks, cable routes, borrow pits and construction compounds were explicitly assessed. The SSFRA concludes that, with the proposed mitigation, there will be no appreciable displacement of floodwaters that would increase flood levels on surrounding lands, roads or properties, no obstruction of existing drainage networks, and no increase in upstream or downstream flood risk. Construction phase controls include protection of field drains, temporary drainage management, and avoidance of works that would impede flood flows during extreme events.

Residual flood risks were assessed and found to be acceptable. Overall, the EIAR and **Appendix 9B** demonstrate, on the basis of quantitative hydraulic modelling and compliance with national guidance, that the Proposed Development avoids inappropriate development in high-risk areas where possible and, where interaction with Flood Zones A/B occurs, is designed and mitigated such that it will not exacerbate flooding locally or downstream.

Any effect from floodplain displacement will be highly localised and will not have a perceptible effect on any existing property. Flood resilient design material will be used throughout the development and are wholly appropriate for the lifespan of the Proposed Development. Queries regarding soil compaction from construction impacts is considered highly localised and would have a negligible impact. The proposed surface water drainage network will maintain exiting run off rates and not increase pluvial flooding occurrence.

Photographs were including in submissions showing pluvial flooding as a result of a particularly wet November, as noted in the EPA November Hydrology Bulletin. Flood zoning does not apply to pluvial sources. The area of the Proposed Development was recorded as having 'Particularly High' and 'Above Normal' rainfall. https://www.epa.ie/publications/monitoring--assessment/freshwater--marine/hydrology-bulletin/hydrology-bulletin/EPA-Hydrology-Bulletin-November-2025.pdf

Based on the Justification Test undertaken in the FRA, the proposed development has been subject to an appropriate flood risk assessment, embedded and proposed mitigation measures and is appropriate for the location proposed.

4.6.2 Surface Water Quality Risks and Management

Local residents have raised queries regarding the protection of surface water quality during the construction of the proposed development. Submissions emphasise that the scale and intensity of construction activity—including excavation, soil stripping, access track construction, borrow-pit development, concrete works, and heavy vehicle movements creates a significant risk of sediment mobilisation and pollution, especially during periods of heavy rainfall. Residents especially query the potential for contaminants to enter nearby watercourses including the Morningstar River, the River Maigue and downstream watercourses, with consequent impacts on water quality and dependant aquatic environments.

Observers provide specific examples highlighting these risks. One submission identifies the proximity of the receiving watercourses and the potential for pollutants from construction to affect a watercourse they value for its wildlife and amenity functions. Other submissions emphasise the risk of sediment-laden runoff, concrete washout, fuel or hydraulic spills and lubricant leaks reaching local water bodies. Queries were raised regarding how the proposed watercourse crossings and drainage works could mobilise sediment and pollutants into the Morningstar, Maigue and ultimately the Shannon system, with knock on ecological effects. Observers highlight that minor drains and headwater streams are sometimes omitted or undervalued and that instream works in small drains can have the effects on the wider catchment. Queries were raised that floodplain modification, culverting and infilling could alter drainage flow paths and floodplain function, with cumulative hydromorphological deterioration and impacts on flood dependent habitats (e.g. Morningstar/Corcass lands). -on ecological effects-valued and that in-stream works in small drains can have the -dependent habitats (e.g. Morningstar/Corcass lands).

A submission highlights perceived deficiencies in the EIAR's assessment of surface water management, stating that "**Chapter 9** (Water) and **Appendix 2E** (SWMP) do not adequately address these matters... Strict fuel-management plans for construction vehicles are essential to prevent leaks or spills. In addition, regular monitoring of water quality and flow rates for all private water schemes in the vicinity should be carried out before, during, and after construction." These submissions illustrate that residents perceive inadequate planning and mitigation for potential pollutant pathways, including parts of the access tracks and grid connection routes.

Queries were raised regarding the construction of new tracks, hardstands and borrow pits in a wet, flood-prone catchment which was suggested would increase overland flow, sediment mobilisation and pollution (fuels, cement, metals), particularly into the Morningstar and its wetland floodplain. One submission noted "Surface water management, particularly in relation to excavations, borrow pits and construction runoff, is insufficiently designed to prevent pollution of nearby streams and drains. The project therefore risks offences under the Water Pollution Acts and non-compliance with water quality objectives. Borrow pits, access tracks, foundations and drainage works risk causing hydro morphological alteration and pollution of surface waters connected to the Shannon system. The project fails to demonstrate that water body status will not deteriorate or that WFD objectives will be achieved, as required by EU and Irish law."

Additionally potential operational phase effects of runoff and hydromorphology were raised. Observes suggested that long-term hardstanding and drainage could increase peak flows, reduce infiltration, and degrade floodplains. Some submissions argue that infilling depressions, drainage measures and culverting will negatively and permanently effect the overall receiving hydrological environment.

Collectively, these observations underscore the view among residents that the EIAR does not sufficiently demonstrate that surface water quality will be protected, that pollution pathways are properly managed, or that adequate monitoring and mitigation measures are in place to safeguard local rivers, streams, and connected aquatic ecosystems.

RESPONSE:

Potential impacts on surface water quality have been comprehensively assessed in EIAR **Chapter 9** (Water) and **Appendix 9A** (Water Framework Directive Assessment), with specific regard to construction and operational phase related pollution risks, sensitive receptors, and compliance with WFD objectives.

Based on the assessments presented in EIAR **Chapter 9** and **Appendix 9A**, and with the implementation of embedded mitigation and management measures, the Proposed Development will not result in significant adverse effects on surface water quality. The WFD Assessment concludes that the project will not cause deterioration in the status of any surface water body nor compromise compliance with WFD Article 4 objectives (**Appendix 9A**; EIAR **Section 9.6**).

Risk of pollution from sediment runoff, excavation and construction activities

The EIAR acknowledges that earthworks, track construction, borrow pits and other construction activities present a potential risk of sediment-laden runoff and accidental spillages, particularly during periods of heavy rainfall. These risks were assessed in detail for the construction phase (EIAR **Chapter 9 Section 9.4.1.2**). The assessment concludes that, with the implementation of standard and project-specific best practice measures, significant adverse effects on surface water quality will be avoided. Mitigation measures include phased construction, minimisation of exposed ground, interceptor drains, silt traps, settlement ponds, stabilisation and reinstatement of disturbed soils, and strict controls on the storage and handling of fuels, oils and concrete (EIAR **Sections 9.3.1.2 and 9.5.1**). Residual effects on surface water quality are assessed as not significant.

Protection of the Morningstar River and downstream watercourses

The Morningstar River and its tributaries are identified as sensitive receptors. The EIAR confirms that no untreated runoff or direct discharges to surface waters will occur during construction or operation. Buffer zones are maintained along watercourses, in-stream works are avoided, and watercourse crossings are designed to prevent sediment mobilisation and protect channel integrity (EIAR **Sections 9.3.1.3 and 9.5.1**). Baseline water quality data and WFD status assessments demonstrate that, with mitigation in place, the Proposed Development will not cause deterioration in surface water chemical or ecological status, nor affect downstream aquatic environments (**Appendix 9A**; EIAR **Section 9.6**).

Surface water management for access tracks and grid connection routes

A surface water management strategy is embedded within the design and assessment of access tracks, construction compounds and grid connection works. EIAR **Chapter 9** confirms that drainage systems will be implemented along all work areas, including internal access tracks, crane hardstands and compounds, to attenuate runoff, control erosion and protect water quality (EIAR **Section 9.3.1.2**). The underground grid connection along existing roads will not introduce new surface water pathways or discharge points. Detailed drainage design and construction controls are secured through the Construction Environmental Management Plan (CEMP) (**Appendix 2A**) and the Surface Water Management Plan (**Appendix 2E**) referenced within the EIAR.

The Sequential Approach was applied at an early stage of the project to ensure infrastructure was located outside flood zones insofar as possible and a Justification Test was carried out in Accordance with Section 5 of the 2009 Planning & Flood Risk Management Guidelines in **Section 4.4.10** of **Appendix 9B** Flood Risk Assessment. In relation to the flow estimation methods, a range of methods were assessed and the method resulting in the highest flow estimation was adopted to provide a precautionary approach to flow estimation in small catchments as recommended by the Planning & Flood Risk Management Guidelines. A residual risk assessment was carried out which assessed the sensitivity of the hydraulic model to flows larger than predicted, climate change impacts greater than predicted and blockage sensitivity. Pluvial and groundwater flooding will be addressed as part of the overall drainage strategy and the design of this drainage strategy will be completed at detailed design stage. The freeboard requirements are outlined in **Section 4.4.7** of **Appendix 9B** and the flood levels provided in **Table 4.15** of **Appendix 9B**.

Operational Phase Run off and Water Quality Management

As set out in **Chapter 9**, during operation, no discharges to groundwater are proposed and surface runoff from turbines and tracks will be managed via SuDS measures — swales, attenuation, and vegetated overland flow — prior to discharge either to ground or to existing ditches. Where drains are removed or intersected, equivalent conveyance swales are to be constructed first, then the original drain infilled, to preserve flow paths and rates. The proposed design maintains existing flow paths, peak flow rates and total flow volumes.

In the context of the wider catchment, the calculated increase in hardstanding is miniscule; effects on hydrological flow regime are assessed as "imperceptible", with no measurable change to the Maigue or Morningstar flows at water-body scale.

4.6.3 Groundwater Quality, Flow and Hydrogeology

Local residents have raised queries regarding groundwater quality, groundwater flow and hydrogeological conditions, commenting that the EIAR fails to adequately characterise a site known to be underlain by shallow and variable groundwater. Submissions refer to observed groundwater ingress at depths of approximately 1–2.3 metres below ground level, including during dryer summer months, indicating the likelihood of groundwater interaction during excavation, blasting (if required) and foundation construction and borrow pit development.

Observations detailed queries that piling in karstified aquifers, turbine foundations and borrow pits could create rapid pathways for pollutants to reach the underlying aquifer and connected streams with limited attenuation due to low storage in karst. Observers note that the EIAR did not highlight disappearing streams or springs on site, and argue that connectivity to Lough Gur, public supplies and wetlands has been underestimated.

Observers question the feasibility of the borrow pits and fear that excavating in areas with shallow groundwater could create altered groundwater pathways, dewatering or contamination risks. Submissions contend that trial pitting done for the proposed development and community experience indicate that the site including some borrow pit areas frequently exhibit ponding and surface expressions of groundwater. Submissions query that dewatering for foundations, borrow pits and grid trenches could depress groundwater levels over wider areas and dry out groundwater dependant wetlands. One objector commented that "excavation, turbine foundations, and borrow pits will disturb groundwater and overburden layers, and dewatering may be required... risk[ing] aquifer contamination, risking safe domestic water supply."

Residents argue that disturbance or redirection of groundwater flow could adversely affect water quality, field drainage and connected surface waters, including the Morning Star River, and that the reliance on proxy data and mitigation measures—rather than robust, site-specific hydrogeological investigation and modelling, fails to satisfy the precautionary principle or demonstrate that groundwater resources and groundwater-dependent receptors will be protected.

RESPONSE:

Groundwater conditions and potential effects of the Proposed Development have been comprehensively assessed in EIAR **Chapter 9** (Water) and **Appendix 9A** (Water Framework Directive (WFD) Assessment). The assessment was undertaken by qualified hydrogeological specialists and followed EPA, GSI and TII guidance, including development of a Conceptual Site Model (CSM) for groundwater–surface water interactions (EIAR **Section 9.1.3**; **Appendix 9A**, **Sections 2 and 4**).

Characterisation of groundwater conditions

The EIAR recognises that groundwater across the site is shallow, locally variable and influenced by soil, subsoil and floodplain conditions (EIAR **Sections 9.2.3–9.2.5**). Site walkover surveys, desk-based review of GSI mapping, vulnerability classification, and ground investigation data (Northwest Geotech, 2024) confirm that groundwater levels may be encountered at relatively shallow depths in parts of the site, particularly in low-lying areas. This condition is explicitly acknowledged in the assessment and informed the identification of potential construction-phase risks (EIAR **Section 9.4.1.1**).

The hydrogeological setting is characterised predominantly as locally important aquifers with variable vulnerability, rather than regionally important or strategic aquifers (EIAR **Figure 9-4**; **Section 9.2.5.3**). No karst features of significance were identified within the development footprint (EIAR **Section 9.2.5.5**).

Excavation, blasting and borrow pits

Potential interactions between excavation, turbine foundations, borrow pits and groundwater were assessed in EIAR **Section 9.4.1**. Based on the site investigation, the EIAR anticipates only localised, temporary dewatering during excavations where shallow groundwater is encountered during excavations, these effects will be localised, temporary and manageable through standard construction practices (e.g. controlled dewatering, construction stage treatment train). No long-term alteration of regional groundwater flow paths is predicted.

Borrow pits and turbine foundations will not require permanent dewatering. The size and scale of the proposed foundations and borrow pits are negligible in the context of the wider aquifer. Post-construction reinstatement will restore pre-existing drainage and infiltration characteristics (EIAR **Sections 9.3.1.1 and 9.5.1**).

Dewatering outflows will be treated as part of the surface-water drainage network, attenuated/settled, and allowed to infiltrate to ground, ensuring the existing hydrogeological regime is maintained and groundwater levels remain stable.

Groundwater–surface water connectivity

The EIAR and WFD Assessment explicitly recognise the hydraulic connectivity between groundwater and surface waters, including the Morningstar River and its tributaries (EIAR **Sections 9.2.6** and **9.4.1**; **Appendix 9A Sections 4** and **7**). The watercourses within the main development area are gaining watercourses, receiving groundwater via diffuse baseflow (with some contributing springs), consistent with regional hydrogeology. Springs and baseflow pathways have been fully characterised and assessed within the EIAR. Construction phase risks to groundwater - surface water connectivity are highly localised and fully mitigated through measures already incorporated into the EIAR and CEMP.

The EIAR **Chapter 9** included consideration of the complex hydrogeological environment underlying and facilitating Lough Gur. Though the main development is sufficiently distant and hydrogeologically downstream from Lough Gur, the EIAR acknowledges that the proposed grid connection is in close proximity to springs that are likely discharging water from the lough Gur complex. Overall, the provision of the grid connection, including directional drilling, will only require very shallow excavations in the existing road margin and will have an imperceptible effect on the hydrogeological regime governing the Lough Gur complex or general ground water flow paths in the wider area.

At the main development site, both the construction and operational phase drainage network have been designed to ensure that infiltration characteristics are maintained both in terms of quantity and quality. This is reflected in the WFD Assessment conclusions which describe how, with mitigation in place, the Proposed Development will not cause deterioration in groundwater chemical or quantitative status, nor adversely affect connected surface waters (**Appendix 9A, Sections 8** and **10**).

Reliance on data and precautionary approach

The hydrogeological assessment is based on a combination of site-specific walkover surveys, ground investigation data, published OPW, GSI, OSI, and EPA datasets, and WFD classification information. This approach is consistent with EPA and GSI guidance and is standard practice for developments of this nature (EIAR **Section 9.1.3**).

In preparing the hydrology and hydrogeology assessment, the precautionary approach was implemented by deliberately assessing reasonable worst-case scenarios, adopting conservative design avoidance measures, and applying robust mitigation and monitoring to ensure that no significant effects could occur even under unlikely adverse conditions. **Chapter 9** of the EIAR evaluates scenarios such as extreme rainfall and coinciding pollutant releases. Precaution is further demonstrated through the use of design measures that avoid pollutant pathways altogether—such as bunded directional drilling compounds, isolated concrete works and controlled fuel storage which prevent contaminants from entering surface or groundwater systems under any foreseeable

circumstances. High- frequency monitoring, ECoW supervision, daily inspection of silt controls, immediate cessation procedures and emergency response plans provide additional layers of precaution to address uncertainty during construction and operational phases. The Water Framework Directive assessment explicitly confirms that the project was evaluated in line with the precautionary principle, stating that worst-case conditions were applied in assessing potential impacts and that, with mitigation, no adverse effects on WFD objectives or protected areas are predicted.-case scenarios-avoidance measures-frequency monitoring, ECoW supervision, daily inspection of silt controls, immediate cessation procedures and emergency response plans provide additional layers of precaution to address uncertainty during construction and operational phases. The Water Framework Directive assessment explicitly confirms that the project was evaluated -case conditions were applied in assessing potential impacts and that, with mitigation, no adverse effects on WFD objectives or protected areas are predicted

Residual impacts

The EIAR acknowledges that shallow groundwater conditions increase sensitivity during construction; however, with the implementation of the prescribed mitigation measures, residual impacts on groundwater quality, groundwater flow and groundwater-dependent receptors are assessed as not significant (EIAR **Sections 9.7** and **9.8**).

On the basis of EIAR **Chapter 9** and **Appendix 9A**, the Proposed Development has been assessed in accordance with EPA, GSI and WFD requirements. The assessment demonstrates that, with embedded design and mitigation measures, groundwater resources, private wells, group water schemes and groundwater-dependent surface waters, including the Morningstar River, will be protected, and no significant adverse hydrogeological effects are predicted.

4.6.4 Water Supplies

Multiple observers note that houses in the area surrounding the development lands use private wells or local group schemes and state that wells are not mapped or adequately assessed in the EIAR. They query both quality and yield impacts from excavation, grid connection trenching and borrow pits.

Submissions raise specific risks to the Boherard Group Water Scheme (GWS), which supplies 37 homes in the locality and relies on a groundwater source approximately 50 m deep. The Secretary of the scheme questions the potential impact of the development on local groundwater, asking: "What effect will the construction of these turbines have on the water table in our locality? Will private wells and water schemes be affected, and if so, who will be responsible for making good any issues that may arise?" Another objector similarly queries that "construction of wind turbines ... will affect water quality through soil disturbance, run-off and pollution," and highlight that the Boherard Group Water Scheme well and pumphouse are located along the proposed turbine delivery route, raising queries about infrastructure damage and responsibility for remediation. Another submission noted that "the proposed borrow pit is situated on a floodplain connected to the groundwater system that supplies our private well," emphasising the vulnerability of local water supplies to hydrological disruption, and

Particular queries have been raised regarding potential impacts on private wells, which are not mapped in the EIAR and for which no baseline water quality testing, monitoring framework, or protection measures have been provided, contrary to EPA and Geological Survey of Ireland guidance. One objection states that she "has a private well on [her] land. The EIAR does not have well mapping included in their report... Excavation for turbines foundations and the 110 kV cable may alter groundwater, affecting wells and field drainage. Under EPA guidance, baseline well testing, and protection measures are required before consent." Similarly, another objector

highlights that "Chapter 9: Hydrology doesn't assess private wells" and warns that altering groundwater flow through construction works "may affect wells and field drainage."

RESPONSE:

Private wells, group water and public schemes

Private wells within a 2 km radius of the site were identified using GSI datasets (EIAR **Chapter 9 Table 9-8; Figure 9-7**). A systematic review of wells and abstractions was undertaken using GSI datasets and local information. The wells supplying the Boherard Group Water Scheme and other public and group water supplies were also assessed as potential receptors (EIAR **Sections 9.2.8 and 9.2.11**). No direct works are proposed within source protection areas and standard protection measures, including exclusion zones, pollution prevention controls, and emergency response procedures, will be implemented (EIAR **Sections 9.5.1 and 9.5.2**).

It is noted that the EIAR does not include baseline sampling of individual private wells; however, such sampling is not a mandatory requirement of EIAR guidance where no significant impact pathway is identified. The EIAR provides for monitoring and adaptive management should unforeseen impacts arise (EIAR **Section 9.8**). **Chapter 9** acknowledges that there would likely be unrecorded wells for rural dwellings and assesses potential impacts accordingly. The WFD Assessment (**Appendix 9A**) builds on this by screening in the entire relevant groundwater bodies and assessing whether the project could compromise quantitative or chemical status. It concludes, in **Table 8-1**, that with mitigation in place "no deterioration in WFD status is predicted" for groundwater. Specific protection measures for wells and schemes include:

- No abstraction of groundwater for construction or operational phases of the development as all construction water is imported and potable water at the substation is provided via storage/harvesting and not via local supply.
- A commitment in **Chapter 9** and the SWMP that "no discharges to groundwater" will occur; all foul water goes to sealed holding tanks and is tankered off-site by licensed contractors.
- Construction Environmental Management Plan (CEMP) procedures to locate and protect private wells and group schemes in agreement with Limerick City & County Council (LCCC), including buffer distances and prohibition of refuelling or hazardous material storage in their vicinity.
- In combination, these measures address the core query: there is no intentional interaction with private wells or group water schemes and the risk of inadvertent impact is controlled through mapping, standoff distances and strict pollution prevention measures.-off distances and strict pollution-prevention measures.

The assessment concludes that, given the scale of excavations, absence of long-term abstraction, and localised nature of works, significant impacts on private well yields or quality are unlikely (EIAR **Section 9.4.1.1**).

4.6.5 Regulatory Compliance

Local residents have raised explicit queries that the proposed development fails to demonstrate compliance with the Water Framework Directive (2000/60/EC), particularly in light of the project's potential to worsen flooding and degrade water quality. One submission cautions that construction activities may exacerbate existing flooding, stating that such impacts would be "contrary to the EU Floods Directive (2007/60/EC) and the Water Framework Directive (2000/60/EC)," thereby directly questioning the project's alignment with EU water protection objectives. Similar queries are reflected in submissions from other local observers, who emphasise the need for the project to demonstrate "full compliance with ... the Flood Directive [and] Water Framework Directives" before

consent can be considered, underscoring residents' view that such compliance has not been adequately evidenced within the EIAR. Together, these submissions indicate a shared query among local residents that the applicant has not shown how deterioration of water bodies will be avoided or how Water Framework Directive objectives will be achieved in practice.

RESPONSE:

WFD Compliance

Compliance with WFD objectives has been explicitly assessed through a dedicated Water Framework Directive Assessment (**Appendix 9A**), prepared by Enviroguide (2025) and is fully integrated into EIAR **Chapter 9**.

Appendix 9A was prepared in accordance with Directive 2000/60/EC, the European Communities (Water Policy) Regulations 2003 (as amended) and WFD Common Implementation Strategy guidance. The assessment followed a precautionary approach to determine whether the Proposed Development could result in deterioration of surface water or groundwater status or compromise the achievement of WFD objectives. All relevant surface water and groundwater bodies potentially affected by the development were identified and assessed, including the Morningstar River, its tributaries, associated groundwater bodies and any relevant protected areas, using EPA datasets and site-specific information.

Potential impacts arising during construction, operation and decommissioning were assessed against the relevant WFD quality elements, including hydrological regime, sediment mobilisation, pollution risk and groundwater–surface water connectivity. The assessment incorporated embedded mitigation and standard best-practice construction and operational measures, as detailed in EIAR **Chapter 9**, including drainage controls, pollution prevention measures and construction management procedures.

The WFD Assessment concludes that the Proposed Development will not cause deterioration in the status of any surface water or groundwater body, nor will it prevent the achievement of WFD objectives. As no deterioration or permanent modification of any waterbody is predicted, an Article 4(7) derogation is not required. This conclusion is clearly set out in **Appendix 9A** and is supported by the impact assessments and mitigation measures described in the EIAR.

Residual risks following mitigation were assessed as low and not significant, with no residual effects on waterbody status or potential. Monitoring and adaptive management measures are included to ensure ongoing compliance throughout construction and operation. On this basis, the EIAR and **Appendix 9A** demonstrate, in a clear and evidence-based manner, that the Proposed Development is fully compliant with the objectives and requirements of the Water Framework Directive.

Floods Directive Compliance

A Site-specific Flood Risk Assessment (SSFRA) was completed for the proposed Ballinlee Wind Farm in accordance with the Planning System and Flood Risk Management Guidelines for Planning Authorities (DoEHLG, 2009), as described in EIAR **Chapter 9** and **Appendix 9B**. The SSFRA was completed using the staged approach recommended by the Guidelines, incorporating Stage 1 Flood Risk Identification, Stage 2 Initial Flood Risk Assessment, and a Stage 3 Detailed Flood Risk Assessment (FRA) where required.

The SSFRA explicitly aligns with the requirements of the EU Floods Directive 2007/60/EC, transposed into Irish law through S.I. 122/2010 (as amended), which mandates the assessment and management of flood risks to reduce adverse impacts to persons and property. The SSFRA also integrated relevant datasets from OPW mapping, the OPW historic flood database, and detailed site-specific hydraulic modelling.

The Sequential Approach was applied in accordance with the 2009 Guidelines to avoid, reduce, and where necessary, mitigate flood risk. For areas where infrastructure such as turbine bases or access tracks intersect Flood Zones, a Justification Test was completed. The SSFRA demonstrates that:

- the development supports national and regional renewable energy policy,
- flood risks have been fully assessed and quantified, and
- appropriate mitigation is incorporated to ensure that the development will not increase flood risk elsewhere.

4.6.6 Risk of Cumulative Impact with Other Energy or Infrastructure Projects

A small number of submissions from local residents also raise queries about water-related impacts arising from cumulative effects with other wind farm and infrastructure developments in the region. For example, one objector states that "if all this concrete is allowed to be poured into fields near my lands, there will be a displacement of water to neighbouring lands – including my own land. These are wetlands already. There needs to be an assessment of cumulative impacts in the region, particularly as other energy/infrastructure developments are proposed or planned nearby."

Another submission states "In the absence of any investigation on the cumulative impact on health directly or as pathways to ill-health and the environmental impacts of this application in combination with two wind farms already proposed by the same applicant for the nearby Bruree and Coolcappa areas, I request that a full and comprehensive cumulative impact assessment should be required. This would cover cumulative effects on: Biodiversity, Soils and Geology, Noise and Vibration, Infrasound, Water Environment, Air Quality and Climate, Population and Human Health, Major Accidents and Disasters."

RESPONSE:

A full cumulative impact assessment was undertaken in **Section 9.4.3** Potential Cumulative Impacts of EIAR **Chapter 9**. The EIAR identifies other relevant developments in the region, evaluates their hydrological connectivity to the Ballinlee site, and assesses the likely in-combination effects:

- Garrane Wind Farm is the only proposed/permitted wind farm located within the same hydrological catchment as Ballinlee. If construction phases were to overlap and if standard best-practice controls were not implemented, there could theoretically be increased risk of cumulative sediment or contaminant loading. However, the EIAR concludes that with standard mitigation in place, no significant cumulative impacts are likely.
- Other regional developments (housing, solar farms, and minor infrastructure projects) were reviewed. These lie at least 3.3 km from the site. Their cumulative contribution to water quality risk is assessed as imperceptible to slight, primarily due to their scale, distance and dilution factors.

The assessment confirmed that hydrological pathways and catchment behaviour have been fully characterised. Mitigation measures (e.g., surface-water management, silt control, good practice construction protocols) ensure that there are no likely significant cumulative effects predicted with the proposed Development and in conjunction with any other screened-in projects in any geographical area.

4.7 Population and Human Health

Numerous objections queried population and human health through various factors such as noise, vibration and shadow flicker. According to these submissions, these effects can lead to annoyance, loss of ability to enjoy one's own home, anxiety, sleep disturbance, headaches and stress and mental health impacts.

RESPONSE

A full assessment of the impacts on Human Health and Population is undertaken in **Chapter 5** of the EIAR and are addressed in detail within. Specific impacts regarding Noise, Vibration and Shadow Flicker Impact, with relevance to potential health impacts, are responded to in **Section 4.5** and **4.8** in this response document.

4.8 Shadow Flicker

A number of submissions from the members of the public raise queries regarding potential shadow flicker effects arising from the proposed development. The responses generally mention shadow flicker in relation to effects on health and the proximity of the turbines to dwellings or other buildings such as schools and temporary accommodation centres. Many of these general objections regarding shadow flicker were in relation to sleep disturbance, annoyance, potential psychological and mental health impact, stress and reduced quality of life. There are a number of objections that specifically make reference to individuals that are neurodivergent and the potential impact of shadow flicker on those individuals.

Several objections refer to the impact shadow flicker may have on horses and agricultural livestock in the vicinity of the proposed development. Other objectors make reference to the proximity of the turbines to dwellings, and make reference to breaching of guidelines, or that the guidelines used are out of date. The remaining objections are in relation to what they deem as insufficient assessment and/or mitigation in relation to shadow flicker.

RESPONSE

Queries regarding Shadow Flicker have been comprehensively assessed in the Environmental Impact Assessment Report (EIAR), with a detailed technical evaluation provided in **Chapter 15** Shadow Flicker and consideration of the human health effects in **Chapter 5** Population and Human Health. Shadow flicker is a predictable and quantifiable phenomenon, and its potential occurrences have been objectively assessed using the *Windfarm* modelling software, which takes into analysis turbine dimensions, locations, receptor distances and solar paths in accordance with accepted methodologies. The assessment results are consistent with the existing 2006 Wind Energy Development Guidelines, and consideration was also given to the 2019 Draft Revised Wind Energy Development Guidelines. Until the revised guidelines are published in final form, the Government has advised that the current 2006 guidelines remain in force. However, with mitigation measures employed in full, the criteria in both documents can be achieved.

The assessment identified the theoretical maximum shadow flicker, as predicted by the *WindFarm* software, using levels under highly conservative assumptions of constant sunshine. In **Section 15.3.5** of **Chapter 15**, actual sunshine data is applied, the analysis demonstrates that the conditions necessary for shadow flicker are likely to occur during approximately 29% of the theoretical maximum hours. On this basis, realistic shadow flicker levels were derived and are presented in **Table 15-2** of **Chapter 15** the EIAR. The results show that, in the realistic scenario without mitigation the flicker impact is well below the 30 hours per year threshold value at most locations, excluding 7 of the properties in the vicinity, while one would exceed the 30-minute threshold per day. With the implementation of the Shadow Flicker Control Module, as is standard for commercial windfarm operations, turbines will be controlled in order to eliminate shadow flicker and the development will be fully compliant with the 2006 guidelines, and no residual effects of shadow flicker are expected.

Section 5.4.1.1 of **Chapter 5** of the EIAR addressed the issue of property devaluation associated with wind energy development. That section reviews the available evidence base and concludes that there is no substantiated basis for widespread or systematic property value impacts arising from wind farm developments. The following text provides cross-referencing context and supplementary information where relevant. Further information regarding this topic is in **Section 4.4** of this response document. Issues related to impact on Human Health and Population; these topics are addressed in **Section 4.7** of this response document. Objections regarding Equine and Agricultural Livestock are addressed in **Section 4.5.6** of this response document, which highlights studies

undertaken to assess impacts by windfarms on livestock showed there was a lack of such effects or that animals quickly habituated to the disturbance. One of the studies of effects on horses discussed found that only 11 of the 424 horses living on farms surveyed, were reported by the owners to have displayed concern or avoidance of shadows on stable windows or on the ground along a trail. However, even these horses habituated quickly.

Assessment of the impact of shadow flicker was performed in line with the Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022) in assessing human health. There is no requirement outlined in the legislation to assess impacts for specific population groups, in this case the neurodivergent individuals that were the subject of the objections. With this in mind, the mitigation measures to reduce shadow flicker through adherence in order to ensure that there are no residual effects associated with shadow flicker include:

- setback distances,
- installation of Shadow Flicker Control Modules on the turbines themselves,
- modelling of the potential shadow impact during operation, and
- ongoing monitoring and assessment.

4.9 Landscape and Visual

A large proportion of the submissions received from members of the public relate to landscape and visual queries. Many of the landscape and visual related issues are common across the submissions so it is considered more useful to respond to the issues by theme or highlight distinctive submissions than repetitively in respect of each submission. The common themes / distinctive issues that will be addressed include;

1. Turbines too tall
2. Turbines too close to local residences
3. Industrialisation of the scenic rural landscape
4. The turbines will intrude on views from sensitive amenity and heritage receptors

4.9.1 Objection regarding 'Turbines too tall'

OBJECTION

The general objection to the proposed turbine height is that the turbines will dominate the skyline as well as the rural landscape setting and will be overbearing in relation to nearby residents. The turbine height is often compared to other familiar or iconic tall structures.

RESPONSE:

By way of response, it is important to note that comparison with other tall features is only relevant when their setting is similar and their form / function comparable. The proposed turbines will be visible within a broad scale rural landscape setting where they may be prominent in some instances, but due to the slender form and set back distances from roads and residences, they do not appear overbearing or spatially dominant within views.

Although 160m turbines are notably larger than the first-generation turbines that were constructed in Ireland as the wind energy industry emerged around two decades ago, the proposed turbines would only be classed as mid-range in height by today's standards. Several wind energy applications have been submitted and granted in recent years with turbines at or in excess of 200m. These tend to be in broad peatland settings, but by the same rationale,

the proposed 160m tall turbines do not appear over-scaled in their broad rural context. This is reflected in the findings of the LVIA chapter (**Chapter 12**), which acknowledges several mid to high ranges effects, but none that are deemed significant. Furthermore, the LVIA includes a Route Screening Analysis (RSA) that reinforces that within relatively short distances (even less than 2km), it is considerably more likely that the proposed turbines will be fully screened by intervening terrain and vegetation than openly visible.

4.9.2 Objection regarding 'Turbines too close to local residences'

OBJECTION

A number of the objections raise queries that the proposed turbines will be too close to local residences and will be visually overbearing and detrimental to residential amenity.

RESPONSE

It should be noted that the proposed turbines comply with the 2019 Draft Revised Wind Energy Guidelines in terms of residential setback as they are more than 4 X the turbine blade tip height (600m/640m) from nearest turbines. This is a setback distance that has been introduced, in part, to ensure that proposed turbines are not overbearing and will not significantly effect residential visual amenity. Furthermore, whilst there are two localised Substantial-moderate visual impacts assessed in the project LVIA, the remaining viewpoint assessments are all Moderate or lower. All of these visual effects are deemed to be not significant and, by implication, the scale of turbines is not considered to be excessive for this landscape and visual setting.

4.9.3 Objection regarding 'Industrialisation of the rural (Golden Vale) landscape'

OBJECTION:

Many of the 3rd party submissions contend that the proposed wind farm will spoil the natural beauty of the area and contribute to the industrialisation of the rural landscape. Several also include reference to this area being part of the broad and fertile 'Golden Vale' being the heart of Munsters' dairying country.

RESPONSE:

By way of response, local residents will invariably and understandably extol the virtues of their local landscape, however, it is important that the LVIA takes an objective stance and also considers the receiving landscape in the national and regional context in terms of distinctiveness, quality and value. Being part of 'Golden Vale' country implies that the area is synonymous with fertile agriculture and rolling pastureland, but landscape values relate more to productivity and sustaining of the rural economy rather than remote, scenic or natural character. The project LVIA highlights that in accordance with the Limerick Development Plan 2022-2028, the receiving landscape is a general rural one; LCA 01 – 'Agricultural Lowlands'. This Landscape Character Area is not classified as being of high value or sensitivity and has associated policies that seek to support the established rural economy rather than provide a high degree of protection to the landscape. By any measure, it is predominantly a productive and modified landscape rather than a pristine and naturalistic one. Even the frequently referenced Ballyhoura Mountains are notably modified by agriculture, extensive commercial conifer plantations and wind energy development.

In addition to the above, the Wind Energy Strategy for County Limerick identifies that the proposed development falls within an area that is a 'Preferred' one for wind energy development, this being the most favourable classification within the County. Furthermore, the nearest scenic designations (scenic route / view) is nearly 5km away at Lough Gur and aside from another at Tory Hill (7km away), all other scenic designations are well beyond 10km away from the proposed turbines in the outer portions of the study area.

As a more general point, it is common for observers to claim that a proposed wind farm will contribute to the urbanisation or industrialisation of the rural landscape, however, this has connotations that do not reflect the reality of wind energy development in Ireland. It is accepted that the proposed wind turbines and ancillary structures will contribute to an increase in the scale, intensity and diversity of built development within the receiving rural landscape. However, wind turbines have become synonymous with rural, upland and cutover peatland areas in Ireland over the past 25 years – not urban or industrial areas. They are structures that require broad, exposed and often isolated settings to function effectively and tend not to be developed near urban areas due to issues associated with population density. Describing a structure as contributing to industrialisation of a landscape invokes images of bulky monotone buildings and chimney stacks - whereas, wind turbines are structures of the rural landscape with a direct connection to the elements.

4.9.4 Objection regarding 'The turbines will intrude on views from sensitive amenity and heritage receptors'

OBJECTION:

Whilst most 3rd party submissions raise general queries in relation to effects on visual amenity, some are specific about visual intrusion on views of, or from, particular landscape features of scenic, heritage or recreational amenity value. Landscape features commonly referenced include;

- Lough Gur
- Knockfierna
- Ballyhoura Hills

RESPONSE:

Views from Lough Gur are comprehensively assessed in the project LVIA where they are represented by VP17, VP18 and VP19 and these also represent the scenic route that surrounds the Lough Gur Heritage complex. VP17 is from the Grange Stone Circle and VP18 is from the Lough Gur Wedge Tomb and neither has the potential for visibility of the Proposed Development. VP19 is from the local road at the northern end of Lough Gur, which is afforded partial views along the alignment of the Lough itself. The turbines are a considerable distance away from here and read as a background feature that is discrete from the foreground setting. Consequently, the overall visual effect was deemed to be Not Significant even accounting for the sensitivity of the receptor.

Knockfierna is over 12km away to the west of the site and does not have any associated scenic route or view designations. It is assessed in terms of potential landscape effects on the basis that it has its own Landscape Character Area (LCA). The Knockfierna LCA is not considered suitable for wind energy development in its own right, which implies it has some sensitivity to such development. However, the landscape impact assessment concludes that beyond the Central Study Area (>5km from the Site) are some of the more sensitive landscape areas (such as Knockfierna), but the significance of landscape effect is not considered significant for such areas because of separation distance reducing the magnitude of effect on their landscape character as well as the degree of intervening screening that reduces intervisibility. In this regard, there is another forested hill immediately east of Knockfierna which lies between Knockfierna and the proposed wind farm.

The Ballyhoura Hills begin to rise some 12km south of the proposed wind farm and afford some elevated views towards the proposed wind farm. However, as noted above, the Ballyhoura range is characterised by agriculture, extensive commercial conifer plantations and wind energy development, which limits its landscape and visual sensitivity to similar development particularly within the distant agricultural plains to the north. Two representative viewpoints are used to assess visual effects from within the Ballyhoura landscape context within

the project LVIA and these are; VP3 - L1511 at Kilfinane; and VP4 - R512 at Ardpatrick. The visual effect from these receptors is deemed to be 'Slight' and 'Slight-imperceptible' respectively and is not significant.

4.9.5 Objection regarding 'Cumulative visual impacts'

OBJECTION:

Several of the 3rd party submissions relate to concerns of cumulative visual impacts with other existing permitted and in-planning wind energy development and specifically the developers' own Garrane Wind Farm (in-planning) some 10km to the southwest of the proposed wind farm.

RESPONSE:

Cumulative visual impacts are comprehensively assessed in the project LVIA using a cumulative Zone of Theoretical Visibility (ZTV) map as well as inclusion of all cumulative wind farms within the wireframe images contained in the photomontage set in accordance with relevant guidance and best practice. Given that all of the existing and permitted developments are contained at distances of over 16km in various directions from the proposed development, cumulative impacts are unsurprisingly limited.

The in-planning Garrane Wind Farm was also included within the cumulative assessment and the overall assessment of cumulative effect was classified as 'Slight'. As highlighted in the assessment, there is a considerable distance of nearly 10km between the two developments and the Route Screening Analysis (RSA) for the proposed development indicates a high degree of screening within the surrounding rural lowland landscape – a similar landscape setting shared by Garrane Wind Farm. There will be combined views of both developments from some elevated locations such as within the Ballyhoura range, but in such circumstances, they appear as widely separated and discrete features.

4.9.6 Objection regarding 'Photomontage Accuracy'

OBJECTION:

A couple of the 3rd party submissions raise issue with the apparent accuracy of the photomontages used to support the visual impact assessment.

RESPONSE:

The photomontages are prepared as 'verifiable views' that correlate with the highest level of accuracy within the Landscape Institute guidelines relating to visual representation of development proposals. The process of producing the photomontages involves capturing high resolution photography and an associated geo-location of the camera position to within approximately 20cm of accuracy. The proposed turbines are modelled to their precise dimensions and placed into a digital surface model where wireline images of the turbines and terrain are produced using the same parameters as the original camera shot/s. Photo-real renders are also produced and these are matched to the wireline image and the base photography to generate highly accurate photomontages.

4.9.7 Objection regarding 'Visual impacts at Cultural Heritage sites'

OBJECTION:

The Limerick City and County Council submission highlighted a number of cultural heritage and architectural heritage receptors from which it was felt visual impact assessment should be undertaken (and additional photomontages produced). Some of these included Architectural Conservation Areas (ACA) within surrounding settlements.

RESPONSE:

By way of response, it is important to note that visual effects occur in relation to visual receptors and visual receptors are people / groups of people experiencing views from different locations and contexts that influence their sensitivity to visual change (according to relevant guidance; GLVIA – 2013). It is very common that statutory bodies and planning authorities request assessment of visual effects on a particular monument and this is only relevant to LVIA when that monument attracts regular visitors – in which case it will be assessed by the LVIA specialist in terms of the visual effects on those visitors and by the Cultural Heritage specialist in relation to effects on the setting of the monument (both may use photomontages to inform their assessment). If it is a monument that is in private ownership and / or is not regularly visited by the public, only the Cultural Heritage assessment of effects on its setting is relevant. This is an important distinction to make because it ensures that neither the LVIA specialist nor the Cultural Heritage specialist find themselves making non-expert judgements in relation to the other's field of expertise and also so that the planning authority is fully aware of the relative assessment responsibilities.

Photomontages were prepared and visual impact assessment undertaken from the identified settlements / features of Bruff, Lough Gur and Killmallock as part of the LVIA (**Chapter 12** of the EIAR). This was a population based assessment rather than one that specifically considered the intrinsic ACA merits of the built fabric or archaeological setting. This is an appropriate approach for the LVIA as these setting-based factors are dealt with separately and from an expert perspective in the Cultural Heritage assessment (**Chapter 14**).

4.9.8 Visual and Landscape Effects Conclusion

The Landscape and Visual impact assessment contained in **Chapter 12** of the EIAR was undertaken in accordance with relevant guidance and best practice for LVIA and photomontage production for wind energy development in Ireland. It was completed by an independent landscape consultancy firm with experience of preparing such assessments for more than 200 Irish Wind Farms over the past 25 years.

The landscape and visual effects arising from the proposed wind farm will be similar in scale and nature to many other commercial scale wind energy developments throughout the country including those that do not occur in 'Preferred' areas for wind energy development such as this one does. Despite the considerable number of third party submissions, the submission themes are similar in nature to what would be expected for most commercial wind energy developments proposed in settled rural areas.

It is accepted that the proposed development will have some mid to high range effects and reduce the visual and rural amenities at a localised level, but not to the extent that it generates significant adverse effects. This is reflected in the findings of the project LVIA. In this regard, it is also worth noting that landscapes are dynamic and will continue to evolve in response to the natural and cultural processes of the time. As noted by Judge Humphreys in relation to the 2024 Coom Wind Farm judicial review (case no. ABP-315656-23):

> *"In order to address Climate Change, I would suggest that other elements of our environment and the context within which the environment is perceived must also change. This includes in particular the visual context of an area which cannot be expected to remain unchanged in perpetuity but particularly within the context of a climate emergency".*

4.10 Traffic & Transportation

OBSERVATION

The submissions raise queries about construction traffic and the suitability and safety of the local road network for accommodating construction traffic associated with the Proposed Development. Residents express apprehension that the narrow rural roads are not capable of safely handling increased volumes of heavy vehicles. They highlight that these roads are regularly used for walking, running and cycling, and fear that the introduction of large construction traffic could significantly reduce safety for families, children and other vulnerable road users.

RESPONSE:

Chapter 16 of the EIAR, Material Assets: Traffic and Transportation, assesses the potential effects of construction and operational traffic on the surrounding road network in accordance with relevant legislation, policy and guidance. The assessment considers traffic associated with the Proposed Wind Farm Development, together with the proposed turbine delivery route along national, regional and local roads serving the site.

The baseline assessment identifies the characteristics of the receiving road network, including rural local roads of varying carriageway width, existing traffic volumes, junction arrangements and road geometry.

The construction phase has been assessed in detail, including anticipated traffic volumes, vehicle types and delivery routes. A comprehensive Traffic Management Plan (**Appendix 16A**) has been prepared as part of the EIAR. This plan sets out the measures that will be implemented to manage construction traffic safely and to minimise disruption. The Plan includes:

- Identification and assessment of turbine and abnormal load delivery routes;
- Scheduling of deliveries to avoid peak traffic periods where practicable;
- Temporary traffic management measures including signage, stop/go control and, where required, temporary road or lane closures;
- Advance notification procedures and community liaison arrangements;
- Coordination with the Local Authority, An Garda Síochána and emergency services in advance of abnormal load movements; and
- Road condition surveys prior to construction, ongoing monitoring during the works and reinstatement, where required.

The Traffic Management Plan has been prepared at application stage and will be further refined prior to the commencement of construction. The finalised Plan will be submitted to Limerick City and County Council for agreement. All construction traffic will be managed in accordance with the approved measures.

The Turbine Delivery Route Assessment, included within **Appendix 2C** of the EIAR, evaluates the suitability of the selected haul route and identifies any temporary accommodation works or traffic control measures necessary to facilitate safe delivery.

Overall, the assessment concludes that, with the implementation of the proposed traffic management and mitigation measures, construction traffic can be accommodated on the local road network without giving rise to significant adverse effects on road safety or network operation.

4.11 Cultural Heritage Effects

A number of submissions raise queries relating to cultural heritage. For clarity and conciseness, these matters are addressed by reference to common themes and, where relevant, distinctive submissions, rather than responding individually to each submission.

Where issues raised have already been comprehensively assessed within the EIAR, the relevant section references are provided in order to avoid unnecessary repetition and to facilitate ease of access to the original assessment.

The principal themes and issues identified are as follows:

- Proximity of the proposed grid connection to Lough Gur and the Grange Stone Circle
- Adequacy of the archaeological assessment of the grid connection route, including potential impacts on Sixmile Bridge
- Effects on the wider cultural heritage of the Golden Vale

4.11.1 Lough Gur and Grange Stone Circle

Submissions raise queries regarding the proximity of the proposed grid connection route to Lough Gur and the Grange Stone Circle, including potential disturbance to archaeological resources and degradation of the visitor and tourism experience. Reference is also made to Limerick Development Plan Objective ED O6, which supports tourism based on cultural and natural heritage.

These matters are assessed in EIAR **Section 14.6.4, Chapter 14**, which concludes that, with the proposed mitigation measures, the development will not result in significant adverse effects on the archaeological or cultural heritage significance of Lough Gur or the Grange Stone Circle.

4.11.2 Assessment of the grid route including Sixmile Bridge

Submissions express queries regarding the perceived lack of archaeological assessment along the proposed grid connection route.

As outlined in EIAR **Section 14.6**, there are eight structures recorded in the National Inventory of Architectural Heritage located along the proposed grid connection. Of these, only one structure — Sixmile Bridge (Reg. No. 21902305) — has the potential to experience a physical impact during the trench excavation stage.

The potential impact on Sixmile Bridge is classified as significant. However, in response, horizontal directional drilling (HDD) will be employed at this location to avoid direct physical impact, thereby fully mitigating the potential effect.

4.11.3 Cultural Heritage of Golden Vale

Submissions raise queries regarding potential alteration of the landscape, impacts on tourism, and changes to the character and setting of heritage assets within the Golden Vale.

These issues are addressed in detail in EIAR **Sections 14.6** and **14.7, Chapter 14**. The assessment concludes that, while the development will result in landscape change, it will not give rise to significant adverse effects on the cultural or archaeological heritage value of the Golden Vale, nor will it undermine its tourism function, having regard to the scale of the development and the proposed mitigation measures.

4.11.4 Additional Archaeological Assessment & Mitigation Measures

A project archaeologist will be appointed prior to development. In accordance with the mitigation strategy set out in **Chapter 14**, a programme of pre-development archaeological investigation will be undertaken, including licensed geophysical survey and licensed test excavations along the proposed grid connection route and associated works.

The treatment and interpretation of the archaeological resource, including matters relating to archaeological clustering, ritual landscapes and contextual relationships were assessed within the EIAR.

Mitigation measures will include as appropriate, horizontal directional drilling (HDD) to avoid direct physical impacts on sensitive heritage assets, licensed intra-riverine archaeological investigations and surveys, and targeted archaeological monitoring during construction works in areas identified as archaeologically sensitive based on the results of the licensed investigations and excavations.

These measures will ensure that any potential archaeological impacts, including those within watercourses, are fully identified, avoided where possible, and appropriately managed, in accordance with the assessment and mitigation framework set out in the EIAR.

4.12 Air Quality

In relation to air quality, submissions raise queries that the volume of heavy goods vehicle traffic and the scale of excavation associated with the Proposed Development will lead to "significant fumes and dust emissions" affecting nearby homes, farms and community facilities. It is asserted that effective mitigation is "highly improbable," particularly during the construction and transportation phases.

Queries are expressed by residents living "within 50 m of the proposed route for construction vehicles" and within proximity of turbines, who state that increased dust and fumes would "negatively affect our overall health and wellbeing," with particular emphasis on impacts to "young children's developing respiratory systems." Submissions link air pollution from dust and fumes to the development or worsening of respiratory illnesses, including "asthma," "Chronic Obstructive Pulmonary Disease (COPD)," and "pulmonary fibrosis."

Additional queries relate to the proximity of sensitive receptors, including schools and childcare facilities. It is stated that further increases in construction traffic on already busy roads would "lead to air pollution and distractions for staff and children," and that dust deposition in school environments would directly affect pupils with asthma and other respiratory vulnerabilities.

Submissions also describe borrow pits as operating "like quarries," generating "dust plumes" and "fine particulates," and contend that the EIAR underestimates these effects and does not adequately assess impacts on "children, elderly residents, or individuals with respiratory conditions," despite guidance requiring consideration of sensitive receptors and cumulative construction sources. Queries are raised that **Chapter 10** (Air Quality) sets out only "general assessments and mitigation for dust and emissions," while the Population and Human Health chapter simply references this assessment without providing "any specific analysis of preschool-aged children's heightened sensitivity" or the fact that children "spend prolonged periods outdoors." It is stated that childcare facilities are "outdoors every single day" and that there is "no commitment to site-specific air quality monitoring" at or near the preschool. Submissions assert that, in the absence of "clear, location-specific analysis in the EIAR," childcare providers cannot confirm that foreseeable risks from construction traffic and dust to children and staff are fully understood or mitigated. Further concerns relate to the extent and duration of construction traffic, including references to "80 to 160 HGV trips a day" over a period exceeding two years, extensive trenching for grid connections, and large volumes of concrete haulage through towns and along local roads. It is asserted that these activities will result in "considerable dust and airborne debris," presenting a

"genuine risk to public health," particularly for vulnerable populations. Finally, submissions state that dust and air quality impacts associated with construction traffic, excavation and haulage would cause sustained disruption to daily life, local businesses and rural communities, with residents describing the prospect of "constant dust and disturbance" and "sustained exposure" in the absence of clearly documented mitigation measures.

RESPONSE:

The potential for construction phase air quality impacts has been comprehensively assessed in **Chapter 10** (Air Quality) of the EIAR, with specific regard to dust generation from earthworks, borrow pit excavation, construction traffic, track-out and exhaust emissions from plant and vehicles. The assessment considers the scale, duration and spatial extent of construction activities and their effect on nearby sensitive receptors. The assessment methodology is based on the Institute of Air Quality Management (IAQM) Guidance on the Assessment of Dust from Demolition and Construction (2024) and adopts conservative zones of influence.

Baseline air quality conditions were characterised using available regional and national air quality information. The receiving environment is predominantly rural and is therefore expected to reflect typical rural background air quality, consistent with EPA Air Quality Zone D, where pollutant concentrations are well below the relevant ambient air quality limit values.

The air quality assessment has been undertaken using a health-protective framework that considers the population as a whole, including individuals who may be more sensitive to changes in air quality such as children and those with underlying health conditions. By applying conservative assessment criteria and ensuring compliance with statutory air quality standards at all sensitive receptors, the assessment is designed to inherently protect all members of the community, including vulnerable individuals.

Having regard to the nature and scale of the Proposed Development, the use of existing data was considered sufficient to inform the assessment. In this context, site-specific air quality monitoring was not considered necessary, noting that such monitoring is more commonly applied to developments with sustained emissions to air, such as industrial or anaerobic digestion facilities, rather than wind energy developments. On this basis, any minor, short-term increases in emissions during construction are not expected to give rise to significant effects on human health.

The EIAR demonstrates that construction-related dust and emissions, including those associated with borrow pits and excavation activities, have been robustly assessed using accepted best-practice methodologies. Mitigation measures to minimise dust generation and deposition are presented in **Section 10.5** of EIAR **Chater 10** (Air Quality). In response to specific queries on dust suppression, this section confirms that water will be used as a dust suppressant where required e.g. a water bowser to spray access tracks and crane hardstanding areas during any extended dry periods when fugitive dust emissions could potentially arise.

Measures to manage and control dust, emissions and air quality are also set out in **EMP 8:** Construction Dust, Emissions and Air Quality Management, contained within the Construction and Environmental Management Plan (CEMP) provided in **Appendix 2A** of the EIAR. The CEMP establishes a structured framework for site supervision, environmental management and corrective action will be updated as necessary, and to reflect any conditions imposed by An Coimisiún Pleanála.

Construction traffic effects, including those arising from HGV movements, material deliveries and grid connection works, have been assessed in **Chapter 16** (Traffic and Transportation) and are managed through the Construction Traffic Management Plan (CTMP) provided in **Appendix 16A** of the EIAR. The CEMP and CTMP will operate together to ensure that construction activities and associated traffic are coordinated and managed in a manner that controls dust and emissions, maintains road cleanliness and minimises effects on nearby receptors.

Queries raised in submissions regarding dust, air quality, borrow pit activities, construction traffic and potential effects on human health have been considered within the scope of the EIAR assessments and associated

management plans. The EIAR demonstrates that these matters have been addressed through a comprehensive, site-specific assessment informed by current best practice and regulatory guidance, with appropriate management and control measures identified and secured for implementation.

4.13 Climate

4.13.1 Sustainability

Submission raise queries regarding the sustainability and environmental impact of the proposed wind farm across the full turbine lifecycle. It is asserted that the EIAR does not adequately address long-term sustainability in the context of EU Circular Economy policy and the Waste Framework Directive, and that the manufacture of turbines requires "hundreds of tonnes of concrete and steel" with a high associated carbon footprint. Submissions contend that these construction-related emissions undermine the climate benefits of the development during the early operational years.

Further queries are raised regarding the sourcing of turbine materials, including rare earth elements, and the potential environmental risks associated with the use of lubricants, hydraulic oils, and resins during operation. Submissions also focus on end-of-life management, stating that turbine blades are "not recyclable", that foundations may be left in situ permanently, and that the absence of a detailed decommissioning and recycling plan constitutes a breach of EIA and waste legislation. It is additionally suggested that alternative renewable energy approaches, such as solar PV or community-scale energy storage, may offer greater sustainability with lower ecological impact.

RESPONSE:

The lifecycle sustainability of the proposed development has been assessed within the EIAR in accordance with the requirements of the EIA Directive, EPA EIAR Guidelines, and relevant national and EU policy. Climate-related lifecycle effects, including embodied carbon, operational carbon savings, and decommissioning-phase emissions, are addressed primarily within **Chapter 11** (Climate), with supporting information in **Chapter 2** (Description of the Proposed Development).

The EIAR explicitly recognises that the manufacture and construction of wind turbines involves the use of concrete, steel and other materials with associated embodied carbon. These impacts are quantified using recognised assessment methodologies, as set out in **Chapter 11, Sections 11.2.1.1** and **11.2.1.2**. Construction-phase greenhouse gas emissions and embodied carbon are assessed in **Chapter 11, Section 11.4.1**, with the results presented in **Table 11-10**. These emissions are evaluated against the projected carbon savings from renewable electricity generation over the operational lifetime of the development in **Chapter 11, Section 11.4.2.1**. The assessment demonstrates that while there is an initial carbon cost associated with construction, this is offset within the early years of operation, after which the development delivers a substantial net reduction in greenhouse gas emissions relative to fossil fuel-based electricity generation. The EIAR does not claim immediate carbon neutrality but transparently identifies the carbon payback period and long-term net benefit.

With regard to materials sourcing, including rare earth elements, the EIAR assesses the Proposed Development at project level, consistent with established EIA practice. The assessment of embodied energy and material use is described in **Chapter 11, Section 11.2.1.2**, with quantities of construction materials detailed in **Chapter 2**. Global mining practices fall outside the scope of the EIAR and are beyond the control of the Proposed Development, however, turbine procurement will comply with applicable EU standards and supply chain requirements.

Queries regarding the use of lubricants, hydraulic oils, and resins during operation are addressed within the EIAR. Operational activities and associated risks are considered in **Chapter 11, Sections 11.4.2** and **11.4.4.2**. The operational phase is characterised by infrequent maintenance activities, with turbines designed as sealed systems. Standard mitigation measures, including controlled handling procedures, spill prevention and response measures, and appropriate storage and disposal of waste materials, are provided for. With these measures in place, the EIAR concludes that there is no likelihood of significant effects during the operational phase.

End-of-life considerations are addressed within the EIAR at a level of detail appropriate to the planning stage. Decommissioning impacts are assessed in **Chapter 11, Section 11.4.3,** with mitigation measures outlined in **Section 11.4.4.3**. The EIAR recognises that a significant proportion of turbine components, including steel and copper, are recyclable and are expected to be recovered at end of life in accordance with regulatory requirements and prevailing practice at that time. While composite blade materials have historically presented recycling challenges, the EIAR notes that reuse and recycling technologies are evolving and are expected to continue to develop over the lifetime of the project.

The EIAR does not assume that turbine foundations will necessarily be left in situ permanently. Decommissioning measures will be determined with regard to environmental protection, land stability, and future land use, and in accordance with the requirements of the planning authority at the time of decommissioning. The absence of a fully detailed decommissioning method statement at this stage is consistent with EIA guidance and does not constitute a breach of the EIA Directive or waste legislation.

The consideration of alternatives is addressed within **Chapter 3** (Consideration of Alternatives) of the EIAR in accordance with the EIA Directive. The Proposed Development is cognisant of site-specific characteristics, available wind resource, grid connectivity, and national and regional renewable energy policy.

Overall, the EIAR demonstrates that the proposed development has been assessed on a lifecycle basis, with embodied emissions, operational effects and decommissioning considerations evaluated and mitigated. Subject to the measures identified, the EIAR concludes that the Proposed Development will deliver significant long-term climate benefits with no significant residual environmental effects.

4.13.2 Carbon Footprint

Further submissions raise queries regarding the adequacy of the climate assessment and the transparency of the project's carbon footprint. It is asserted that, "in the absence of a transparent construction emissions inventory, a justification for the chosen grid route in carbon terms, and mitigation for high-embodied-carbon materials, the climate chapter should be considered incomplete and Further Information should be sought." Queries are expressed that significant carbon emissions will arise from the manufacture, transport and installation of turbines and associated infrastructure, with submissions noting that equipment is "being transferred over 1,000's of miles" and that the use of concrete, described as "not carbon free," will increase overall carbon emissions during construction.

Further submissions question the broader environmental footprint of the development, including "the impact of construction, the resources needed for ongoing maintenance, and the challenges involved in safely disposing of [turbines] at the end of their lifespan." It is contended that no clear measure of the project's overall carbon footprint has been provided and that the emissions associated with construction and materials could "far outweigh the net CO_2 reductions overall."

RESPONSE:

Greenhouse gas emissions associated with the construction phase of the Proposed Development have been assessed in **Chapter 11** (Climate) of the EIAR, with specific consideration given to embodied carbon arising from

materials, transport, land use change and construction activities. The assessment identifies that the principal source of construction-phase emissions relates to embodied carbon in construction materials and associated site activities, including turbine foundations, site tracks, grid connection works and ancillary infrastructure. Detailed project-specific quantities of materials, including granular fill, steel reinforcement, precast concrete elements and in-situ concrete, have been used to inform the assessment, together with representative transport distances for material supply. This approach provides a transparent and auditable construction emissions inventory that is proportionate to the stage of project design and consistent with EPA EIAR Guidelines and accepted best practice.

Emissions associated with vegetation clearance, including the loss of approximately 14.4 ha of forestry and 1,578 m of hedgerow, have been included within the construction-phase carbon calculations, alongside emissions arising from excavation, plant use and construction worker travel. End-of-life decommissioning emissions are also accounted for within the embodied carbon assessment, ensuring that the lifecycle assessment is not limited solely to the construction or operational phases.

The total construction-phase embodied emissions are estimated at 21,413.9 tonnes CO_2 equivalent. When annualised over the operational lifespan of the wind farm, this equates to approximately 611.8 tonnes CO_2 equivalent per annum. In this context, annualised construction emissions represent approximately 0.0003 percent of Ireland's 2030 greenhouse gas emission target and approximately 0.003 percent of the relevant industrial sector carbon budget.

With respect to the grid connection, the selected route is described in **Chapter 2** (Description of the Proposed Development), with associated construction emissions included within the overall construction-phase carbon assessment in **Chapter 11** (Climate). The EIAR does not undertake a comparative carbon appraisal of alternative grid routes, as the route selection was informed by technical feasibility, avoidance of environmental constraints, minimisation of land take and disturbance, and deliverability within the existing grid infrastructure. In accordance with EIA guidance, the climate assessment appropriately quantifies the emissions associated with the chosen route rather than undertaking a hypothetical comparison of alternatives that are not reasonably available or environmentally preferable.

Mitigation in relation to construction-phase emissions and high-embodied-carbon materials is addressed within **Chapter 11** (Climate). These measures include optimisation of material quantities through detailed design, reuse of excavated materials on site, sourcing of materials locally where practicable to reduce transport emissions, efficient construction management and minimisation of waste generation. While materials such as concrete and steel are inherently carbon intensive, their use is unavoidable for structural integrity and safety, and the EIAR addresses this through lifecycle assessment rather than prescriptive material substitution, which would not be appropriate or feasible at the EIAR stage.

To assess the balance between lifecycle carbon losses and operational carbon savings, a project-specific carbon balance assessment was undertaken using the Scottish Government carbon calculator. In the absence of an Irish equivalent, it is considered appropriate to apply this tool to the Proposed Development. The calculations identify approximately 86,046 tonnes of CO_2 equivalent losses over the 35-year lifespan of the 4.5 MW turbines.

Once operational, the wind farm will generate renewable electricity that displaces electricity otherwise produced from fossil fuel sources. Using a conservative grid-mix emission factor, the assessment identifies a carbon payback period of approximately one year. Over the remaining operational lifetime, the Proposed Development is estimated to offset approximately 87,956 tonnes of CO_2 per annum, equating to a total saving of approximately 3.1 million tonnes of CO_2. Direct operational emissions are negligible, being limited to infrequent maintenance vehicle movements.

On this basis, while the Proposed Development gives rise to an identifiable embodied carbon cost during construction, the EIAR demonstrates that these emissions are rapidly offset and that the development delivers

substantial net greenhouse gas emission reductions over its operational lifetime. The climate assessment is therefore considered complete, proportionate, and sufficient to inform decision-making, and there is no basis to conclude that Further Information is required in this regard.

4.13.3 Climate Action Plan and Coolglass WF decision

A number of observers, in third-party submissions to An Coimisiún Pleanála, raised queries that the proposed development fails to adequately comply with the Limerick Development Plan and that undue reliance has been placed on national climate policy to justify departures from local planning provisions. In this context, reference was made to the High Court decision in Coolglass Wind Farm Ltd v An Bord Pleanála [2025] IEHC 1, which was cited as authority for the principle that climate action objectives, while carrying statutory weight, do not displace the requirement for proper planning, environmental protection, or respect for residential amenity.

Several submissions referred to the statutory duty under section 15(1) of the Climate Action and Low Carbon Development Act 2015 (as amended), noting judicial clarification that this constitutes a "comply with" obligation insofar as practicable. However, observers emphasised that the High Court[1] in Coolglass confirmed that such climate obligations must be balanced against, and cannot override, environmental law, human rights considerations, or the binding provisions of development plans. In particular, it was contended that the Coolglass judgment reaffirmed the necessity for decision-makers to adhere to local development plan policies and to ensure that procedural requirements and residents' rights are fully respected, even where developments are advanced in support of national climate objectives.

RESPONSE:

In response, it is noted that the observers' reliance on *Coolglass Wind Farm Ltd v An Bord Pleanála* [2025] IEHC 1 is misconceived and does not accurately reflect either the procedural history of that case or the findings of the High Court. In *Coolglass*, planning permission was refused by An Coimisiún Pleanála, and it was the applicant who successfully challenged that refusal by way of judicial review.

The High Court quashed the decision of An Coimisiún Pleanála on the basis that it failed to properly discharge its statutory obligation under section 15(1) of the Climate Action and Low Carbon Development Act 2015 (as amended). The Court confirmed that this provision imposes a substantive duty on public bodies to comply with national climate action plans and targets insofar as practicable, and that this obligation is not satisfied by mere reference to, or preference for, County Development Plan policies where those policies would frustrate the achievement of binding national climate objectives.

Accordingly, the *Coolglass* judgment does not support the contention advanced by observers that An Coimisiún Pleanála must prioritise County Development Plan provisions over national climate policy, nor that climate objectives cannot justify departure from local planning policies. On the contrary, the High Court made clear that a failure to properly engage with, and give effect to, national climate action plans may render a planning decision unlawful, even where reliance is placed on development plan provisions.

The circumstances in *Coolglass* therefore undermine, rather than support, the objections raised. The judgment confirms that An Coimisiún Pleanála is required to actively apply national climate obligations in its decision-making, and that an undue or unreasoned reliance on County Development Plan policies, without proper consideration of climate action targets, is inconsistent with its statutory mandate.

[1] Note: Coolglass Wind Farm Limited v An Coimisiun Pleanala (2026) Supreme Court decision occurred after the submissions received by ACP for Ballinlee Wind Farm.

An Coimisiún Pleanála (ACP) appealed the High Court's decision to the Supreme Court and ruled to uphold the High Court's decision on the 04/02/2026 and quash ACP's appeal. However, the Supreme Court clarified the scope of Section 15 of the Climate Action and Low Carbon Development Act 2015 (as amended). While planning authorities are legally obliged to perform their functions in a manner consistent, insofar as practicable, with national climate objectives, this obligation does not create an automatic requirement to depart from the provisions of a development plan. The Supreme Court emphasised that climate obligations must be meaningfully and substantively considered within the statutory planning framework, and that a range of outcomes may be open to a decision-maker depending on the facts of the case.

4.14 Land and Soils

4.14.1 Soil Stability and Ground Conditions

Submissions state that wind turbine foundations require "extensive excavation, concrete installation, and heavy construction traffic" and query that such works present risks to "soil stability, groundwater systems, and local watercourses," particularly in rural areas reliant on agricultural land use. It is asserted that the potential for contamination or long-term hydrological disruption should not be overlooked.

It is further stated that parts of the site and surrounding lands comprise "soft, marshy bogland," and that the introduction of heavy construction machinery, turbine foundations and access roadworks would have "catastrophic consequences for the stability of the land." Reference is made to existing signs of subsidence, including sections of local roads having required resurfacing on multiple occasions, and queries are expressed that additional loading could worsen ground instability, affecting "property boundaries, drainage, and the structural integrity of nearby homes."

Submissions also note that EIAR **Chapter 8** acknowledges the presence of peat and soft soils within parts of the site, and assert that turbine bases, access tracks and borrow pits increase the risk of "peat instability," "slope failure," and "drainage alteration." It is claimed that the EIAR does not provide sufficient "worst-case scenario modelling" or justification to demonstrate that these risks can be managed safely.

Additional queries describe the site as comprising "waterlogged soils and established hydrological pathways," with "recurring localised flooding," underlain by glacial till deposits consisting of a variable mix of clay, silt, sand, gravel, cobbles and boulders. It is asserted that these conditions create a "highly sensitive environment" where large-scale ground disturbance carries a significant risk of instability.

Finally, submissions query that the scale of the proposed turbines, with heights of up to 160 metres, combined with construction on "unstable waterlogged soils," could increase the risk of landslip or sediment run-off, particularly where previous instances of infrastructure instability in the wider area are cited.

RESPONSE:

Matters relating specifically to groundwater and hydrology are addressed in **Section 4.6** of this report. The response below addresses the issues insofar as they relate to land, soils and ground conditions, as assessed in EIAR **Chapter 8** (Land and Soils).

The EIAR identifies that the Proposed Development site is underlain predominantly by mineral soils derived from limestone till, with localised occurrences of peat, peaty soils and soft ground in discrete areas. These conditions are typical of the wider agricultural landscape and were characterised through a combination of desk-based review and site-specific ground investigations, including trial pits. The soils are typical of intensively farmed lowland areas of the Golden Vale. These soils are structurally stable under controlled construction conditions and

are not comparable to upland blanket peat or deep organic soils associated with historic peat slide events cited in submissions.

A desktop study of the site was undertaken, including a review of LiDAR and OSI contour data and identification of surface water features, all of which can influence slope stability. During site visits, no areas were identified as being prone to stability risk. Baseline land and soil conditions are described in detail in **Sections 8.3.1** to **8.3.16**, informed by a combination of desk-based assessment, site walkovers and targeted geotechnical investigation.

The design of turbine foundations, access tracks and associated infrastructure has taken account of these ground conditions. Each turbine base will be constructed on suitable bearing stratum using a spread foundation, which is wide and shallow. Access tracks have been routed and designed to minimise excavation and will comprise a combination of founded, floated and upgraded designs, as appropriate to local ground conditions.

Borrow pits are proposed as temporary, controlled sources of construction material and are not intended to operate as deep or permanent quarries. A 30% contingency factor was applied based on the desktop study of the geology and trial pits at the locations of the borrow pits. Excavation depths will be limited, staged and managed to avoid instability of surrounding soils.

The EIAR acknowledges the limited presence of peat and soft soils in parts of the site and includes mitigation measures to manage these areas, including careful excavation, segregation and reinstatement of soils, controlled drainage and avoidance of steep slopes or unstable ground. Given the generally shallow and localised nature of peat identified, the potential for peat instability or slope failure is considered low.

Excavations for the borrow pits and turbine hardstands represent the largest scale excavations within the site. These works will be undertaken in accordance with an approved temporary works design to ensure excavation stability at all times. Excavations will be formed with safe side slope angles or supported where necessary, with perimeter and internal drainage measures installed to manage surface water and groundwater ingress.

As outlined in **Section 8.5.1.2.3** (Slope Stability), the Contractor's method statements for each element of work will be reviewed and approved by the engineer prior to site operations. A competent project geotechnical engineer or engineering geologist will be employed during the construction phase. As part of detailed design, potential planes of weakness within the overburden will be identified, including variations in material type and bedrock foliation. Earthworks will be constructed to safe, stable angles in accordance with detailed design and best practice. Plant and materials will be stored only in approved locations and will not be positioned or trafficked in a manner that would surcharge existing or newly formed slopes.

Construction traffic and plant movement have also been considered in the context of ground conditions and existing infrastructure. Where works interface with local roads or soft ground, appropriate construction controls, temporary strengthening and reinstatement will be implemented to prevent deterioration of soil structure or ground stability.

From a land and soils perspective, with the implementation of the proposed mitigation measures, the likelihood of significant adverse effects on soil stability, ground structure or land use is low.

4.14.2 Road Subsidence

Submissions state that sections of the R516 "are subject to sinking" and that the road level "becomes uneven very quickly due to subsidence," with maintenance works required at regular intervals. Queries are expressed that increased traffic during the construction and maintenance phases of the proposed development would have a negative effect on this "already vulnerable stretch of road."

RESPONSE:

The submissions highlights that the road is underlain by soft ground in places, which contributes to periodic settlement and maintenance requirements. The potential for construction traffic to interact with these ground conditions has been recognised. A pre-construction bridge and road survey will be carried out on the haul routes on the R516, which will be monitored on a regular basis and any damage rectified promptly. Once construction has been completed a post construction road and bridge survey will be carried out. Any sections identified as damaged after the preconstruction survey will be reinstated. These measures are intended to prevent deterioration of subgrade soils and ensure that the existing condition of the road is not adversely affected by the Proposed Development.

4.14.3 Peat

Submissions raise queries regarding the presence, extent and management of peat and soils within the Proposed Development site and question whether the EIAR provides sufficient detail to demonstrate that peat disturbance and soil excavation will be managed in accordance with best practice. It is asserted that turbine foundations, access tracks and associated infrastructure may be located in areas underlain by peat soils, with potential implications for soil stability, drainage and downstream environments.

Queries are expressed that the EIAR does not set out adequate detail on the reuse, recovery or disposal of excavated soils, foundation materials and peat arising during construction, and that this is inconsistent with circular economy objectives and construction phase waste management requirements. Submissions also raise uncertainty regarding the identification, handling and disposal of potentially contaminated soils in compliance with national and EU environmental legislation.

Specific issues are raised in relation to peat assessment and management. While the EIAR acknowledges the presence of localised peat deposits with recorded depths of up to approximately 0.8 m, it is contended that no standalone Peat and Spoil Management Plan has been submitted and that the extent of peat probing across turbine locations, access tracks, borrow pits and other infrastructure is insufficiently documented. Submissions further question the reliance on desk-based peat mapping where site investigations identified local peat remnants and raise queries regarding the adequacy and transparency of peat volume and carbon calculations, as well as the potential for deeper or unmapped peat beyond the investigated locations.

RESPONSE:

Chapter 8 Land and Soils in the EIAR identifies that the dominant soil types across the proposed development are mineral soils derived from limestone till, with localised occurrences of peat and peaty soils recorded in discrete locations. These findings are based on a combination of desk-based mapping and site-specific ground investigations, including trial pits excavated across the site. Site investigations confirmed that peat is present only in small, isolated areas with average depths of less than 0.5 m and that peat risk ranking across the site is zero. On this basis, the chapter concludes that there is no risk of soil instability, peat failure or landslide associated with the Proposed Development.

With regard to the use of published mapping, the EIAR acknowledges that regional soils and peat datasets are indicative in nature and may not capture small-scale or discontinuous peat deposits. For this reason, site-specific ground investigation data was also used to inform the assessment of baseline conditions and design considerations. The presence of localised peat encountered during ground investigations does not indicate extensive peat coverage across the site and is not inconsistent with the absence of mapped peat at regional scale.

The EIAR sets out measures for the management of excavated soils and peat, including the segregation, storage and reuse of topsoil, subsoil and peat where practicable. A Resource and Waste Management Plan (**Appendix 2B**) has been developed to guide the appointed contractor in managing any waste or unsuitable material in compliance with current legislation, guidance and industry standards. While a standalone Peat and Spoil Management Plan is not included as a separate document, the principles of peat management are embedded

within the land and soils assessment and associated mitigation measures. These measures provide for careful handling, short-term storage and reinstatement of peat in areas of disturbance, with the objective of maintaining soil structure and minimising carbon loss.

The extent of ground investigation undertaken was considered sufficient to characterise the site from a land and soils perspective. Trial pits were targeted at key infrastructure locations, including turbine bases, access tracks and borrow pit areas, and provided an appropriate understanding of soil stratigraphy and ground conditions for the purposes of environmental assessment. The EIAR does not rely on assumptions of extensive peat presence and does not propose excavation within deep peat deposits. Given the shallow and discontinuous peat deposits encountered, the potential for significant peat-related carbon release is considered low.

Potential risks associated with contaminated soils are also addressed in the EIAR. The CEMP (EIAR **Volume III, Appendix 2A**) includes site management controls to mitigate for contamination/pollution. The Resource and Waste Management Plan also confirms there is no evidence of historical land uses that would give rise to contaminated land within the site. Notwithstanding this, standard construction environmental controls will apply, including procedures for the identification, segregation and appropriate management of any unexpected contaminated material encountered during construction.

4.14.4 Borrow Pits and Material Suitability

Local residents have raised detailed queries regarding the potential effects of the proposed borrow pits on land and soils, questioning whether the EIAR adequately characterises baseline ground conditions or assesses the consequences of large-scale excavation for soil stability. Submissions from residents living in proximity to the proposed borrow pits emphasise that parts of the area already experience localised flooding, and query that extensive excavation and ground disturbance could compact soils, disrupt natural drainage pathways and increase flood risk for nearby properties.

Queries are also raised regarding the scale of the proposed borrow pits and the extent of soil and rock removal. Reference is made to the EIAR description of borrow pits with a combined area of approximately 60,700 m^2 and minimum excavation depths exceeding 3m, resulting in substantial volumes of excavated material. Residents question whether the implications of such extensive ground disturbance for soil structure, permeability and erosion potential have been fully assessed, particularly in low-lying areas with known drainage sensitivity.

Further submissions highlight perceived inconsistencies between drawings and EIAR text in relation to the location and extent of the borrow pits. It is suggested that these inconsistencies make it difficult to clearly understand the relationship between proposed excavation areas and surrounding lands and raise queries as to whether the true extent of potential soil disturbance and drainage alteration has been accurately captured within the assessment.

Issues are also raised in relation to the absence of a Borrow Pit Management Plan and the limited detail provided regarding excavation methods and soil handling procedures. Residents express queries that, without clearly defined method statements, it is difficult to understand how soil erosion, compaction and sediment mobilisation will be avoided during construction, or how disturbed land will be reinstated in a manner that restores pre-existing soil function.

In addition, submissions refer to potential effects on subsurface conditions arising from deep excavation and ground compaction. Queries are expressed that alterations to ground structure could affect local groundwater levels and drainage behaviour. Residents question whether the EIAR has adequately demonstrated that land and soil impacts associated with borrow pit excavation will be confined, reversible and compatible with existing ground conditions.

Taken together, these submissions indicate shared queries among local residents that the EIAR does not provide sufficient clarity or assurance regarding the land and soil implications of borrow pit excavation. In particular, residents question whether the potential effects on soil stability, drainage function and flood susceptibility have been fully identified and assessed, and whether appropriate mitigation and restoration measures have been defined at a level that allows the likely land and soil impacts of the Proposed Development to be properly understood prior to any grant of consent.

RESPONSE:

In response to the queries raised, it is noted that the potential effects of the proposed borrow pits and associated ground disturbance on land and soils have been comprehensively assessed within **Chapter 8** Land and Soils of the EIAR, in accordance with EPA guidance and the Institute of Geologists of Ireland guidelines.

Baseline land and soil conditions are described in detail in **Sections 8.3.1** to **8.3.16**, informed by a combination of desk-based assessment, site walkovers and targeted geotechnical investigation. The site is characterised predominantly by mineral soils derived from limestone till, with localised areas of poorly drained mineral soils and very limited pockets of shallow peat.

The sensitivity of land and soils receptors is evaluated in **Section 8.3.15** using established NRA criteria. The majority of the site is classified as having low to medium sensitivity, reflecting the absence of designated geological features, the dominance of mineral soils and the limited extent of peat. No geological hazards, including karst features or faulting, are identified within the site.

The extent of borrow pit excavation is addressed in **Section 8.3.10**. Two on-site borrow pits are proposed, with a combined area of approximately 60,700 m^2. Site investigations confirmed shallow overburden depths overlying competent rock strata. The excavation methodology provides for the careful stripping, segregation and temporary storage of topsoil and subsoil in designated deposition areas, with material reuse forming a central element of the construction strategy. Post-construction, the borrow pits will be backfilled with excess site-won material, capped with stored soils and reinstated to agricultural use, ensuring no permanent loss of soil resource.

The EIAR does not assume that all excavated material will be suitable for reuse without verification. The suitability of excavated soils and rock will be confirmed during construction, with material reused on site where appropriate and any unsuitable or contaminated material removed to appropriately licensed facilities in accordance with statutory requirements. The proposed borrow pits are not intended to operate as permanent quarries and will be used solely to supply site-won material for the construction of the Proposed Development.

Borrow pit excavation and turbine hardstand construction represent the largest scale excavations within the site. These works will be undertaken in accordance with an approved temporary works design to ensure excavation stability at all times. Excavations will be formed with safe side slope angles or supported where necessary, with perimeter and internal drainage measures installed to manage surface water and groundwater ingress. Sediment control measures will be incorporated within the drainage system to prevent soil erosion and off-site sediment mobilisation.

The handling, storage and reinstatement of excavated material is further addressed in **Section 8.3.11** and **Section 8.5.1.2**. Excavated soils will be deposited in engineered deposition areas designed to prevent erosion, with materials placed in controlled layers and protected by silt fencing and drainage controls. Progressive reinstatement and revegetation will restore soil structure and function following construction.

Queries regarding subsurface conditions and groundwater interactions are addressed through the detailed geotechnical investigations described in **Sections 8.3.13** and **8.3.16**. Groundwater was encountered only as minor seepage in a limited number of trial pits, and groundwater levels are noted to be shallow and variable across the site, reflecting typical lowland agricultural conditions. The EIAR concludes that borrow pit excavation and associated construction works will not result in significant or permanent changes to subsurface conditions, soil

permeability or groundwater behaviour. Further detail relating specifically to groundwater and hydrology are addressed in **Section 4.6** of this report.

A Construction Environmental Management Plan has been prepared and sets out the fundamental work practices, construction management procedures, roles and responsibilities, mitigation measures and monitoring proposals that must be adhered to during construction. A Resource and Waste Management Plan has also been developed to guide the appointed contractor in managing construction waste in compliance with current legislation, guidance and industry standards. These documents are live and will be updated as additional information becomes available during the detailed design and construction phases. **Section 4.10** of **Chapter 3** (Civil Engineering) confirms that a 30% contingency factor has been applied to borrow pit volumes, informed by the desktop geological assessment and trial pit investigations undertaken at the proposed borrow pit locations.

The EIAR therefore demonstrates that the land and soil implications of borrow pit excavation and associated construction activities have been robustly assessed, that mitigation and reinstatement measures are clearly defined, and that no significant adverse effects on soil stability, drainage function or land quality are predicted.

4.15 Biodiversity and Ornithology

Limerick City and County Council (LCCC) raised queries in relation to the information contained in **Chapter 6** Biodiversity and **Chapter 7** Ornithology and the Natura Impact Statement (NIS). The below text responds to the queries raised and signposts the correct section in the chapter where the information is contained.

4.15.1 Bat Surveys

LCCC raised a query in relation to the timing of bat surveys that were undertaken for the proposed development. Surveys were undertaken between 2023 and 2024, and as such a limited number of surveys were two years old at the time of proposed development planning submission. Refer to EIAR **Chapter 6**, **Section 6.2.7**, **Table 6-5** for survey dates. The following surveys were less than two years old at the time of submission: Preliminary Roost Assessment (PRA) surveys (February 2024), hibernation surveys (February 2024), autumn 2023 static bat detector deployment and emergence/re-entry surveys completed in October 2023. The validity of bat survey data is based on professional guidance and the bat data supplied to inform the assessment for the proposed development is compliant with all relevant guidelines as follows:

- NatureScot Guidance (2024), pre-application surveys for species with restricted survey periods, including bats, remain valid for two further survey periods. Surveys should only be repeated if the application is delayed beyond the start of a third survey period, provided no significant habitat or land use changes have occurred. Therefore, the bat survey data remains valid until April 2026.
- CIEEM (2019): which states that the Age of Data in the range of:
    - 12-18 months: remains valid unless site conditions have changed significantly;
    - 18 months to 3 years: a repeat site walkover OR a Preliminary Roost Assessment (PRA) is usually required.

Preliminary roost assessment surveys were carried out in February 2024 and updated ecology surveys were completed in July 2025, which confirmed habitat conditions had not changed since the original bat surveys. In this regard, survey data used for the impact assessment remained valid and robust for the purposes of assessing the likely significant effects on the local bat populations.

Notwithstanding that the data used for the impact assessment remained valid, a full suite of updated bat surveys were undertaken in spring, summer and autumn of 2025 in line with NatureScot guidance. As such, it is intended that the updated 2025 survey results will be submitted in response to any Request for Further Information.

As inferred by the LCCC submission, there is no intention that post-construction monitoring and carcass searches for bats would supplement data used for the impact assessment on bats, refer to **Section 6.7.1.3** for assessment of effects on bats during construction and **6.7.2.3** for assessment of effects on bats during the operational phase. Mitigation measures for bats appropriate to the likely significant effects identified are contained in **Section 6.8.1.5** and **6.8.2.3**.

4.15.2 Amphibian Survey and Drainage Ditch Habitat

LCCC raised a query in relation to the timing of the amphibian survey and loss of drainage ditch habitat. While amphibian surveys were undertaken in 2023, updated habitat surveys which included a condition assessment of drainage ditches was completed in 2025. Refer to **Section 6.3.3.1.1.4** for the results of drainage ditch condition assessment. The updated habitat surveys confirmed that habitat conditions had not changed in the intervening period and as such the amphibian surveys undertaken in 2023 remain valid. This is in line with the Chartered Institute of Ecology and Environmental Management (CIEEM) guidance note on the lifespan on ecological reports and surveys[2]. Taking a precautionary approach, the impact assessment has been undertaken assuming drainage ditch habitat is suitable for amphibians, refer to **Section 6.7.1.5**. As noted by LCCC, mitigation has been included for the provision of pre-works surveys to protect amphibians, including frog spawn, from habitat loss and water quality deterioration, refer to **Section 6.8.1.9**. LCCC also raised a point in relation to the distribution of wetland habitat enhancement within the proposed development and suitable amphibian habitat that will be recreated as part of the Habitat and Species and Management Plan, as set out in **Figure 6-32** and **Appendix 6I**. While the design of the proposed development has aimed to minimised impacts, there will be drainage ditch habitat loss. However, the overall distribution of drainage ditches within the proposed development and across the wider site will not change as drainage ditch removal is not widespread and is concentrated to working areas. Refer to habitat maps in **Figure 6-13** and **6-14** for drainage ditch distribution. Following the implementation of mitigation, the assessment concluded there will be no likely significant residual effects on amphibians as a result of the proposed development, refer to **Section 6.10.1.5** and **Table 6-52**.

4.15.3 Borrow Pits

In relation to LCCC's comments on the borrow pits, the two borrow pits have been fully included in the impact assessment on Biodiversity. Refer to **Section 6.4** for the description of the development where all aspects have been assessed in **Chapter 6**, **Section 6.7.1** for assessment of likely significant effects on habitats, bats, mammals, badger and aquatic ecology arising from the borrow pits and **Section 6.8.1** which includes mitigation measures against any likely significant effects arising from works at the borrow pits.

4.15.4 Whooper Swan Management Plan (WSMP)

LCCC raise a query in relation to the Whooper Swan Management Plan (WSMP) attracting other waterbird species into the management area. During baseline ornithology surveys, the Morningstar River and the associated floodplain was observed to be used by a range of waterbird species including whooper swan, grey heron and gull species, refer to **Section 7.3.2.3** for details. The management outlined in the WSMP aims to create similar habitat away from the turbine array area to minimise impacts on whooper swan primarily, but also on other waterbirds that were recorded using such habitats. The positioning of the WSMP area is strategic and has been selected based on prior swan use, with baseline surveys confirming regular foraging activity by whooper swans in the area.

[2] CIEEM (2019) Guidance note on the lifespan on ecological reports & surveys. April 2019

Whooper swans arrive to the feeding fields in a south-westerly flight direction from Lough Gur, which is c. 5km northeast of the proposed development, and depart towards Lough Gur for roosting in a north-eastly direction. The proposed location of the WSMP will allow whooper swan to reach the proposed enhancement area without crossing an array of operational turbines, ultimately reducing collision risk.

The location has also considered the disturbance distance for whooper swan to operational turbines. The fields lie approximately 955 m from turbine T3, 340 m north of T4 and 350 m southeast of T1, distances within the documented tolerance range under low-disturbance conditions (Kearney et al., 2021). Its location also aligns with the southwest–northeast flight corridor (refer to **Chapter 7, Figure 7-7**) preserved through the turbine layout, including a 960 m gap between turbines, which was deliberately maintained to facilitate safe swan movement between Lough Gur and foraging areas. Refer to **Chapter 7, Section 7.2.5** which sets out the rationale for the WSMP area and **Appendix 7D** for the WSMP which provides detailed justification on the efficacy of the plan.

Nocturnal whooper swan activity was recorded during baseline surveys over two consecutive winter periods, refer to **Section 7.2.8.1.10** for survey methods and **Section 7.3.2.2.2** for survey results. This information has directly informed the collision risk model (CRM) for whooper swan. Refer to **Section 7.3.3** and **Appendix 7C** where is it explicitly states that:

"A supplementary collision risk analysis using Year 3 data has been undertaken to refine the assessment for whooper swan. This estimate is based on several conservative assumptions, including that flocks observed foraging during VP surveys had commuted into and out of the Development under cover of darkness, and thus were not directly observed in flight. This assumption is supported by bioacoustics data collected during Year 3, which detected consistent nocturnal use of the area by whooper swans. The analysis also incorporated flock size data, inferred flight speeds, and known flight corridor usage."

LCCC raise a query in relation to other waterbirds being attracted into the WSMP area and a subsequent increased collision risk. As for the above whooper swan, the WSMP area is located away from the operational turbine array. With other waterbirds associated with Lough Gur, transiting waterbirds between the two wetlands will not cross operational turbines associated with the proposed development.

LCCC raise a point in relation to monitoring and the focus on whooper swan. While whooper swan are the target species during construction and post-construction monitoring, refer to **Section 7.8** and **Appendix 7C**, as per standard bird survey methodology, other waterbirds will be recorded although not explicitly stated.

A number of submissions from members of the public also raised queries in relation to whooper swan that utilise the proposed development site and associated mitigation measures in the proposed Whooper Swan Management Plan (WSMP).

RESPONSE:

It is acknowledged in **Chapter 7** Ornithology that there will be likely significant effects on the whooper swan population that use the proposed development site, and that are associated with Lough Gur, at a local to County/Regional geographical scale during the construction phase, refer to **Section 7.6.1.2.2**, and the operational phase, refer to **Section 7.6.2.2.2**. As such, appropriate mitigation has been proposed to minimise the impact during both phases of the proposed development, refer to **Section 7.7.2** and **7.7.3**. One measure is the long-term management of fields within the WSMP area. An expert in waterbird ecology, specifically whooper swans, was commissioned to prepare the WSMP, refer to **Chapter 7, Appendix 7D, Section 2** for Statement of competency.

Queries have been raised over the proposed location and efficacy of the WSMP. The WSMP has been prepared based on baseline information collected over three winters of surveys, refer to **Section 7.3.2.2.2**. The enhanced area is contiguous to historically used fields by whooper swan and is therefore regarded as an extension to their foraging area rather than a new area for them to occupy. Feasibility of the WSMP is further supported by the proposed area being located along the swans commuting flight path and marginally closer to their Lough Gur

roost site than current feeding fields at Camas South. While there is no one previous study to rely on, as stated in **Appendix 7D, Section 2**, the more detailed rationale to mitigation design for whooper swans at the proposed development was drawn from a relevant study on whooper swans in relation to a road development at Toome, Northern Ireland. Rather than being based on a single unpublished study, the academic study was itself a small component of a suite of mitigation prescriptions for whooper swans developed by a consortium of stakeholders including Wildfowl & Wetlands Trust (WWT), Royal Society for the Protection of Birds (RSPB) and Irish Whooper Swan Study Group (IWSSG) with individual and organisational expertise in waterfowl ecology. The study incorporated basic concepts on foraging quality and quantity in habitat selection and parameters of disturbance, widely reported in the scientific literature and discussed in **Appendix 7D, Appendix B, Section B.4.3** pasture quality and **Section B4.4** habitat use and disturbance. This study is the proof of concept which substantiates the proposed WSMP. Notwithstanding, environmental factors outside of the proposed development that may alter the movement and behaviour of whooper swans, monitoring to track the efficacy of the WSMP is proposed in **Chapter 7, Section 7.8** and rationalised in **Appendix 7D, Section 7**.

4.15.5 NIS

LCCC raise a point in relation to otter and separately on whooper swan in the context of the Natura Impact Statement (NIS). Otter, as a Qualifying Interest (QI) of the Lower River Shannon SAC, have been adequately assessed in the NIS, refer to **Section 5** Identification of Potential Impacts, **Section 6.1** which details the Lower River Shannon SAC, the QIs, conservation objectives and undertakes an assessment of effects on the European site in light of the QIs for which it is designated and the site specific conservation objectives. For otter, the assessment concluded that indirect impacts such as a fish kill following an extreme pollution event could have a deleterious effect on otter by reducing fish biomass and prey availability, and that PAHs that persist in water and sediment at toxic levels, may biomagnify through the food web, potentially leading to sub-lethal effects in otter. While it was considered unlikely that the SAC otter population extends as far as the proposed development (given a hydrological distance of c. 24.2 rkm), riparian habitat loss could reduce available territory, and construction works may hinder habitat connectivity. As such, appropriate mitigation measures for otter are included in the NIS, and as noted by LCCC, this includes pre-construction surveys for otter, refer to **Section 6.3.1.2** and **6.3.2**.

In relation to whooper swan, as stated in the Appropriate Assessment (AA) Screening Report for the proposed development, refer to **Table 1**, the whooper swan population using the proposed development do not form part of the River Shannon and River Fergus Estuaries SPA. The whooper swan population are associated with Lough Gur. No direct functional link has been established between the River Shannon and River Fergus Estuaries SPA population of whooper swan and those using Lough Gur and the proposed development, refer to **Table 1** of the AA Screening report. As such, potential effects on whooper swan arising from the proposed development, including reference to the Whooper Swan Management Plan, are captured in **Chapter 7** Ornithology, and not in the AA reporting.

4.15.6 Survey Queries

A number of submissions from members of the public have raised queries in relation to the adequacy of surveys undertaken for the proposed development as detailed in **Chapter 6** Biodiversity and **Chapter 7** Ornithology.

RESPONSE:

Surveys undertaken for biodiversity for the proposed development have followed best practice national guidance, where available, and, in the absence of such, have followed prevailing best practice guidance for wind farm developments, refer to **Section 6.1.3.4** for a list of guidance used. Surveys employed for the proposed development were species specific and considered the zone of influence for ecological receptors. Refer to **Section**

6.2.1, Table 6-2 which sets out the survey area for each receptor, the rationale and the relevant guidance document, and **Section 6.2.7** for survey methodology. Where any deviations from the methodology occurred, these occurrences are set out in the statement of limitations, **Section 6.2.10**. No limitations to the robustness of the data collected was identified and where necessary a precautionary approach was taken in the assessment.

For ornithology, best practice guidance used during surveys and in the assessment is set out in **Section 7.1.3.4**. Detailed ornithology survey methodology followed standard best practice guidance for bird surveys and wind farm developments, as set out in **Section 7.2.8.1**. Where any deviations from the methodology occurred, these occurrences are set out in the statement of limitations, **Section 7.2.10**. This section concluded that "notwithstanding minor limitations in access and methodology, the overall dataset is considered sufficient to identify all sensitive ornithological features and to support a robust and reliable assessment of potential significant effects arising from the Development."

The surveys undertaken for the proposed development followed best practice, are robust and are deemed sufficient for impact assessment.

4.15.7 Impact Assessment Queries

Several responses have raised queries in relation to the biodiversity and ornithology impact assessment.

RESPONSE:

As set detailed in **Chapter 6** Biodiversity and **Chapter 7** Ornithology, the impact assessment on both biodiversity receptors and ornithology receptors has been undertaken in line with best practice guidelines. Methodology and guidelines are detailed in **Chapter 6 Section 6.2.3** and **Chapter 7 Section 7.2.4**. The assessment has not deviated from the methodology which has been produced by the professional body for Ecologists in Ireland and the UK, CIEEM.

Considering the impact assessment, and survey methodology, follows standard best practice and prevailing guidelines for wind farm developments, the impact assessment is deemed adequate for the purposes of assessing the potential effects that may arise from the proposed development.

4.15.8 Potential Effects of the Development

Several submissions have raised queries in relation to the potential effects of the development. Submissions have referenced some of the following: disturbance during construction, noise and vibration, destruction of wildlife, loss of habitat and reduction in habitat quality.

RESPONSE:

Potential effects as detailed in **Chapter 6** and **7** include habitat loss, removal of vegetation, excavation of soil and rock, loss of nesting/roosting/resting places, surface water run-off, dust impacts, lighting impacts, spread of invasive species, construction of a clear-span bridge over the Morningstar River, drainage of wetland areas and disturbance and displacement of fauna. Refer to **Chapter 6 Section 6.7** and **Chapter 7 Section 7.6** for a list of potential effects arising during the construction and operational phases of the proposed development. Each potential impact is carefully considered in relation to each individual species and receptor that has been identified as an Important Ecological or Ornithological Feature, refer to **Section 6.5** and **7.4** for the latter.

The loss and destruction of hedgerows have been cited in several submissions. The design of the proposed development has aimed to minimised impacts on hedgerows, careful placement of access tracks and orientation of hardstanding areas has aimed to reduce hedgerow loss across the proposed development. **Table 3-4** of **Chapter 3** Consideration of Alternatives outlines the design evolution and iterations, whereby turbine locations and access

track locations were altered to reduce hedgerow removal. Bat exclusion buffers, which would typically remove all bat habitat features within 50m of the blade tip, have been considered where historical townland boundary hedgerows exist and curtailment applied in these locations to mitigate against collision instead of hedgerow removal, refer to **Chapter 6 Section 6.8.2.3.1.1.1**. This considered approach has been applied across the proposed development to protect hedgerows and comply with Limerick Development Plan 2022-2028, refer to **Section 6.7.1.2.1.2**. Mitigation measures to protect hedgerows during construction are included in **Chapter 6, Section 6.8.1.4** and hedgerow enhancement and replanting is proposed in **Section 6.8.1.11**. A total of 3,970m of new and translocated native hedgerow will be planted, resulting in a net gain of c. 1,574.7m of hedgerow across the proposed development. In addition, habitat enhancement includes establishment of pond and wetland meadows, establishment of native broadleaved woodland and establishment of native species-rich grassland. Refer to **Section 6.8.1.11**, **Figure 6-32** and **Appendix 6I** Habitat and Species Management Plan.

Assessment of hedgerow and habitat loss on other fauna has been assessed for bats in **Chapter 6, Section 6.7.1.3.1.1**, badger in **Section 6.7.1.4.1.1**, pine marten in **Section 6.7.1.4.1.3** and small mammals in **Section 6.7.1.4.1.4**. The loss of hedgerows has also been assessed for passerines in **Chapter 7, Section 7.6.2.3.5**. To protect against breeding birds under the Wildlife Act, appropriate mitigation has been included, refer to **Section 7.7.2.1.1**. With the implementation of the Habitat and Species Management Plan, there will be a long term, positive effect on biodiversity.

Protected species have been cited in several submissions. To note, red fox and rabbit are not protected species under Irish legislation. The presence of red squirrel has been cited in several submissions. Red squirrel were included in the survey scope, refer to **Section 6.2.7.5**, however, no evidence was recorded during surveys (refer to **Section 6.3.3.3.1.4**). Given the desk study and survey results, red squirrel was classified as having Local (Lower) ecological importance within the Study Area (refer to **Section 6.5.3.2.1.4.5**), and in line with guidance, was not brought forward into the assessment of likely significant effects (refer to **Section 6.2.3** for assessment methodology). For badger, evidence of badger was recorded during baseline surveys, refer to **Section 6.3.3.3.1.1**. Potential effects on badgers and their setts have been assessed in **Section 6.7.1.4.1.1** and **6.7.2.4.1.1**, and appropriate mitigation measures are set in **Section 6.8.1.6**.

4.15.9 Collision Risk

A number of submissions raise queries in relation to collisions of bats and birds with the operational turbines.

RESPONSE:

For birds, following NatureScot guidance[3] it is a requirement for an onshore wind farm to "include a quantitative estimate of collision risk for all bird species present on the site for which the level of risk has the potential to be important." **Chapter 7, Appendix 7C** includes the collision risk model (CRM) for the proposed development based on the data collected during two years of ornithological surveys. The CRM has applied the latest model from NatureScot[4] and has used the most up-to-date avoidance rates available[5]. The results of the CRM are considered in the impact assessment for species that were assessed to be Important Ornithological Features (refer to **Section 7.6.2.2**). In summary, the CRM output did not identify any species where collision over the lifetime of the project

[3] NatureScot (2024) Guidance on using an updated collision risk model to assess bird collision risk at onshore wind farms.

[4] Scottish Natural Heritage (2024) Guidance on using an updated collision risk model to assess bird collision risk at onshore wind farms.

[5] Scottish Natural Heritage (2018) Avoidance rates for the onshore SNH wind farm collision risk model.

(35 years) was considered to be significant and would result in mortality rates that are greater than 1% of the national population.

For bats, collision risk is assessed on a number of features including the scale of the development, habitats present, and the flight characteristics and vulnerability of Irish species. Refer to **Chapter 6, Section 6.2.7.4.1.7** for methodology. For the assessment of collision on bats refer to **Section 6.7.2.3.1.1** and for mitigation to minimise the potential effect of collision on bats refer to **Section 6.8.2.3.1.1**. When considering the detailed, site-specific mitigation proposed including the implementation of bat exclusion buffers to exclude bat habitat features from within the collision risk area, feathering of blades to stop or slow turbine rotation at low wind speeds and curtailment for species that fly at height in open habitats, no significant residual effects on bats has been predicted. Refer to **Section 6.10.2.1.1.1** for residual effects from collision and barotrauma and **Section 6.11, Table 6-52** for a summary of potential effects.

4.15.10 Mitigation Measures

A number of submissions raise queries in relation to proposed mitigation measures.

RESPONSE:

Mitigation measures set out in **Section 6.8** and **Section 7.7** of the respective Biodiversity and Ornithology chapters, are appropriate to mitigate the potential significant effects identified during the assessment. The mitigation measures capture a suite of tried and tested standard best practice procedures and site-specific measures to minimise impacts. Standard best practice measures include those that follow guidance documents produced by Construction Industry Research and Information Association (CIRIA), Inland Fisheries Ireland (IFI), Transport Infrastructure Ireland (TII, formerly NRA), British Standards Institution (BSI), Bat Conservation Trust (BCT) and others.

As part of the impact assessment, an assessment of residual effects is completed to account for the impact following the application of the mitigation measures. The post-mitigation potential effects, i.e. residual effects, are contained in **Section 6.10** and summarised in **Section 6.11** of the biodiversity chapter. In the Ornithology chapter, refer to **Section 7.9** for the residual effects and summarised in **Section 7.10**. There will be no significant, negative, residual effects as a result of the proposed development.

4.16 Other Topics

4.16.1 Proximity to Gas Line

Objections were raised regarding the proximity to an existing Gas Network Ireland (GNI) pipeline. Examples of the queries are:
"The risk of a major accident and disaster to GNI pipeline. Creating an unacceptable risk to residents."

"Risk of impact to the GNI pipeline in the area. Proximity to Critical infrastructure (major gas transmission pipeline)" and "Concerns over nearby gas pipeline and risk of damage during excavation or vibration impacts."

RESPONSE:

The access track layout for the proposed development crosses an existing Gas Network Ireland (GNI) transmission pipeline at three (3 No.) locations. GNI have been consulted during the design process of the wind farm in relation to the access track layout, crossing the transmission pipeline and setback distance of the turbines from the

transmission pipeline. As part of the project design the requirements for protecting the pipeline have been adhered to.

Appendix 4L of the EIAR contains an electrical interference assessment relating to potential interference from electrical cables to be installed as part of the proposed development and buried gas pipelines. Under both normal and fault conditions there are no safety risks to the pipeline, general public or livestock.

In response to the queries raised, it is noted that the proximity of the GNI pipeline has been appropriately assessed in **Section 4.15** of **Chapter 4** Civil Engineering of the EIAR and no significant risk is present to the pipeline, general public or livestock.

4.16.2 Aviation & Telecommunications

Local residents have raised queries regarding the impact of the proposed development on phone reception and broadband services. There were also queries raised in relation to the necessity of the Emergency Rescue Helicopter Service to avoid so many turbines in the air space, particularly when transferring patients from UHL (University Hospital Limerick) to Cork. There is a major new Trama Unit proposed for Cork but not for Limerick, which would necessitate emergency transfer of seriously injured patients to Cork. The submissions outline that delays in transfer due to avoiding the multitude of turbines could pose a risk to Health and Safety where minutes could make the difference between life and death.

RESPONSE:

Appendix 17B of the EIAR contains a Telecoms Impact Assessment which contains field and desktop surveys to determine telecommunications network infrastructure that could be impacted by the proposed development. Consultations with telecom operators were also undertaken to assist in identifying network infrastructure that could be impacted by the proposed wind farm. As per **Chapter 17**, the proposed development is unlikely to interfere with existing radio links or telecommunication services. In the unlikely event of any impacts, mitigation measures are contained in **Section 17.5.4**.

The applicant notes the submission in relation to air ambulance services in Ireland which is known as the Emergency Aeromedical Service (EAS). The EAS crew (which include National Ambulance Service (NAS) paramedics) deal with time-critical emergency callouts to major emergencies such as road collisions and urgent medical events. The EAS currently operate two air ambulance helicopters operating from two bases:

1. Custume Barracks, Athlone, Co Westmeath. (Operated by IAC)
2. Rathcoole Aerodrome, Rathcoole, Mallow, Co Cork. (Operated by Private Company (Gulf Med Aviation Services))

The helicopter borne emergency air ambulances consist of an Air Corps operated aircraft based at Custume Barracks in Athlone and a commercially operated aircraft located at Rathcoole Aerodrome in North County Cork. The nearest EAS base to the proposed development is the base in Mallow. The proposed development would not have any impact on take-off or approach procedures into either of the bases.

In the event of a planning consent being granted, the turbine locations would be submitted to the Irish Aviation Authority (IAA) and aviation charts and GNSS databases would be updated accordingly. EAS helicopters would also be fitted with GNSS systems which would clearly identify any potential objects in the operational area (e.g. wind turbines). Aviation lighting on the turbines that would act as a visual aid in night-time flying. In the event of an emergency pick-up in the vicinity of the proposed development i.e. where a meeting point is agreed between ground-based and air-based ambulance services, it should be noted that the proposed development site is located in private lands, without public access.

With respect to the airspace, the footprint of the proposed wind farm development is small and any flight diversions of EAS operations within the vicinity would not have an impact, as the consented turbines would be fitted with aeronautical lighting. In the event of a planning consent being granted the applicant agrees to a condition to agree the lighting of the proposed wind turbines with the IAA in the interest of aviation safe-guarding, as the proposed development may be considered as an obstacle. This aeronautical obstacle warning light scheme would aid aviation, including the air ambulance service flights transferring patients from University Hospital Limerick to Cork.

The applicant notes that the lighting requirements should be in accordance with Chapter Q – Visual Aids for denoting Obstacles; CS ADR.DSN.Q.851 and GM.ADR.DSN.Q.851 (Pages 729/730) of the EASA Easy Access Rules for Aerodromes (Reg (EU) No. 139/2014) where it states: "Applicability: When considered as an obstacle a wind turbine should be marked and/or lighted. The applicant would provide as-constructed coordinates in WGS-84 format together with ground (AOD in meters), and tip height elevations at each wind turbine location."

This information would inform for these reasons that turbines at the proposed wind farm should have no impact on EAS operations.

5. Conclusion

All items raised in the observations have been reviewed and Balinlee Green Energy Limited are satisfied that all have been suitably addressed in the EIAR submitted as part of the planning application. This response document provides additional clarification to particular items raised in the observations.

The applicant has clearly demonstrated that the issues raised in the observations have been reviewed and addressed in the EIAR, NIS and associated planning documentation.

Furthermore, the EIAR and NIS submitted with the planning application clearly demonstrate that the proposed development will not have a significant negative effect on the environment, nor will it adversely affect the integrity of any European Sites alone or in combination with other plans or projects, in light of their conservation objectives.

Having regard to the energy targets set out in The Climate Action Plan 2025, The Climate Action and Low Carbon Development Act, local and regional planning policy and guidance, it is imperative that renewable energy developments which are in accordance with proper planning and sustainable development, such as the proposed development, are given consent.

There has been a significant strengthening and enhancement of Government Policy in the form of the First Revision to the National Planning Framework (NPF) published in April 2025 and at European level. This underlines the seriousness of the European Union and Government's commitment to the ongoing climate emergency, which is an urgent Irish national and Union priority that must be given significant weight based on national and international policies.

The proposed development is a positive addition to the local community which would adhere to the relevant planning requirements. It would also contribute towards meeting the urgent needs of increased renewable energy generation. Therefore, the applicant would respectfully request that ACP grant permission for the proposed development.